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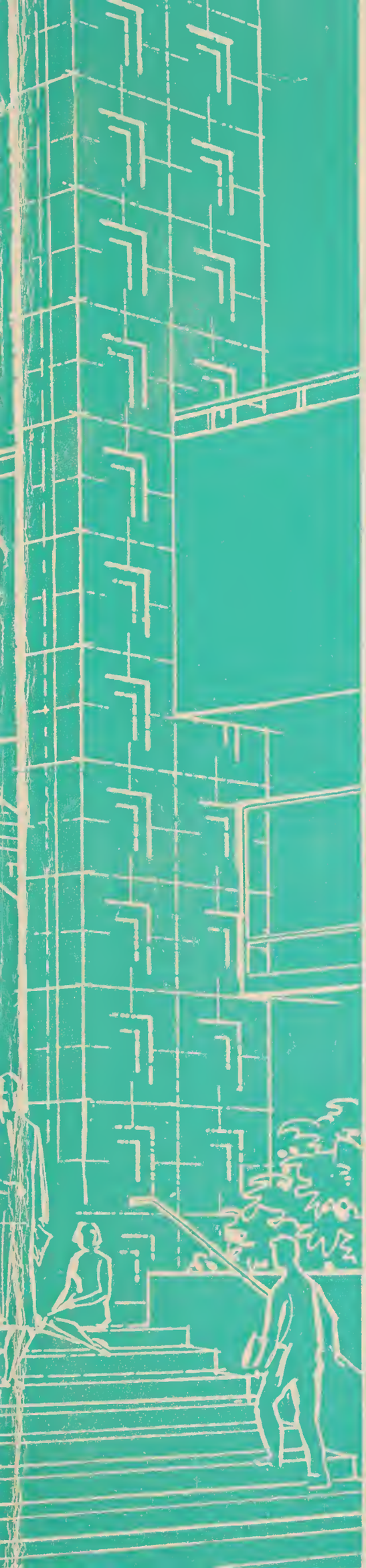

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

BULLETIN

General Catalogue

FALL AND SPRING SEMESTERS 1961-1962

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

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Instruction may be made subsequent to publication.

UNIVERSITY OF CALIFORNIA
SANTA BARBARA

General Catalogue

Fall and Spring Semesters

1961–1962

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

UNIVERSITY, CALIFORNIA

Administrative and departmental offices are normally open Monday through Friday from 8 a.m. until noon and from 1 p.m. until 5 p.m., or by appointment. In addition, the Public Information Office is open on Saturday from 9 a.m. until 12 noon.

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CALENDAR

1961 FALL SEMESTER, 1961–1962

June 1, Thursday	Registration (payment of fees and receipt of packet) and pre-enrollment in classes begin. By mail or in person. For continuing, new, and returning students. See also Aug. 15, Sept. 15, 18, and 29 on pages 16–17, *Schedule of Classes and Directory.*
July 14, Friday	Final date for applications and credentials for admission to graduate status for the fall semester to be filed in the Admissions Office.
July 28, Friday	Last day to apply for reinstatement for fall semester.
Aug. 15, Tuesday	Final date for applications and credentials for admission to undergraduate status for the fall semester to be filed in the Admissions Office.
	Final date for intercampus transfer.
Aug. 16, Wednesday, to Sept. 9, Saturday	Continuing students may not pre-enroll in classes, either by mail or in person, during this period.
Aug. 29, Tuesday	Applications for readmission to the fall semester to be filed with the Registrar's Office by students not in attendance during the spring semester, 1961, or who withdrew during the spring semester, 1961. Special undergraduates and all students in limited status must apply for readmission every semester.
*Sept. 11, Monday	Fall semester begins.
	Instruction begins for student teachers.
Sept. 11, Monday, to Sept. 15, Friday	Orientation, counseling, testing, registration, and pre-enrollment in classes. For detailed daily activities, see *Schedule of Classes and Directory.*
Sept. 14, Thursday	2:00 p.m. Fall Convocation.
	7:30 p.m. All-Student Assembly.
Sept. 15, Friday	Last day to register without late fee and last day to pre-enroll (reserve space) in classes. See also June 1.
Sept. 18, Monday	Late registration fee of $10 assessed beginning this date.
	Instruction begins.
Sept. 18, Monday, to Sept. 26, Tuesday	Filing of registration packets.
Sept. 27, Wednesday	Fee of $10 assessed beginning this date for late filing of packets.
	Fee of $3 assessed beginning this date for late filing of *Announcement of Candidacy* (IBM registration card, No. 10) for bachelor's degree, master's degree, and/or teaching credentials for January 1962. See also Oct. 6, 27.

* Upon arrival on campus, new and returning students should immediately obtain from the Bookstore or Graduate Manager's Office a *Schedule of Classes and Directory,* which lists detailed procedures to be followed during registration week. Schedules also may be obtained by mail for 15¢ by writing The Bookstore; University of California, Santa Barbara; University, California.

Sept. 29, Friday	Last day for late registration.
Oct. 6, Friday	Last day for adding courses.
	Last day to file *Announcement of Candidacy* (IBM registration card, No. 10) for bachelor's degree, master's degree, and/or teaching credentials for January 1962.
	Last day to file application for advancement to candidacy to qualify for the master's degree or for the general secondary credential at the close of the fall semester, 1961.
Oct. 9, Monday	Registration lapsed for failure to file registration packets. To be reinstated to regular status, $10.
Oct. 27, Friday	Last day to drop courses (above 12 units) without permission of the academic dean.
	Last day to file application for teaching credentials for January 1962.
Nov. 3, Friday	End of first half of semester.
Nov. 23, Thursday, and Nov. 24, Friday	Thanksgiving holiday, administrative.
Nov. 23, Thursday, to Nov. 25, Saturday	Fall recess.
Dec. 6, Wednesday	Preregistration counseling begins.
Dec. 11, Monday	Final date to file master's theses with the committee in charge for degrees to be conferred in January 1962.
Dec. 18, Monday, to Jan. 1, Monday	Christmas recess.
Dec. 22, Friday, to Dec. 25, Monday	Christmas holiday, administrative.
Dec. 29, Friday, to Jan. 1, Monday	New Year's holiday, administrative.

1962

Jan. 2, Tuesday	Instruction resumes.
	Final date to file with the campus officer in charge of graduate affairs completed copies of theses for master's degrees to be conferred January 1962.
Jan. 6, Saturday, to Jan. 14, Sunday	Dead Week. No student- or faculty-sponsored evening student group meetings or social events are to be scheduled for this week.
Jan. 13, Saturday	Instruction ends.
Jan. 15, Monday, to Jan. 24, Wednesday	Final examinations.
Jan. 24, Wednesday	Fall semester ends.

1961

SPRING SEMESTER, 1962

Dec. 6, Wednesday	Preregistration counseling begins.
Dec. 13, Wednesday	Registration (payment of fees and receipt of packet) and pre-enrollment in classes begin. By mail or in person. For continuing, new, and returning students. See also Jan. 15, Feb. 2, 5, and 16.
Dec. 15, Friday	Final date for applications and credentials for admission to graduate status for the spring semester to be filed in the Admissions Office.

Dec. 29, Friday	Last day to apply for reinstatement for spring semester.

1962

Jan. 15, Monday	Final date for applications and credentials for admission to undergraduate status for the spring semester to be filed in the Admissions Office.
	Applications for readmission to the spring semester to be filed with the Registrar's Office by students not in attendance during the fall semester, 1961, or who withdrew during the fall semester, 1961. Special undergraduates and all students in limited status must apply for readmission every semester.
	Final date for intercampus transfer.
Jan. 15, Monday, to Jan. 27, Saturday	Continuing students may not pre-enroll in classes, either by mail or in person, during this period.
*Jan. 29, Monday	Spring semester begins.
	Instruction begins for special secondary, general secondary, and junior high student teachers.
Jan. 30, Tuesday, to Feb. 2, Friday	Orientation, counseling, testing, registration, and pre-enrollment in classes. For detailed daily activities, see *Schedule of Classes and Directory.*
Feb. 1, Thursday	Last day for continuing students to file applications for undergraduate scholarships.
Feb. 2, Friday	Last day to register without late fee and last day to pre-enroll (reserve space) in classes. See also Dec. 13.
	Elementary student teachers meet with University advisers and supervising teachers.
Feb. 5, Monday	Late registration fee of $10 assessed beginning this date.
	Instruction begins.
	Instruction begins for elementary student teachers.
Feb. 5, Monday, to Feb. 14, Wednesday	Filing of registration packets.
Feb. 12, Monday	Lincoln's Birthday. Academic and administrative holiday.
Feb. 15, Thursday	Fee of $10 assessed beginning this date for late filing of packets.
	Fee of $3 assessed beginning this date for late filing of *Announcement of Candidacy* (IBM registration card, No. 10) for bachelor's degree, master's degree, and/or teaching credentials for June 1962. See also Feb. 23, Mar. 16.
Feb. 16, Friday	Last day for late registration.
Feb. 23, Friday	Last day for adding courses.
	Last day to file *Announcement of Candidacy* (IBM registration card, No. 10) for bachelor's degree, master's degree, and/or teaching credentials for June 1962.
	Last day to file application for advancement to candidacy to qualify for the master's degree or

* Upon arrival on campus, new and returning students should immediately obtain from the Bookstore or Graduate Manager's Office a *Schedule of Classes and Directory,* which lists detailed procedures to be followed during registration week. Schedules also may be obtained by mail for 15¢ by writing The Bookstore; University of California, Santa Barbara; University, California.

	for the general secondary credential at the close of the spring semester, 1962.
Feb. 26, Monday	Registration lapsed for failure to file registration packets. To be reinstated to regular status, $10.
Mar. 1, Thursday	Last day for new and returning students to file applications for undergraduate scholarships.
Mar. 16, Friday	Last day to drop courses (above 12 units) without permission of the academic dean.
	Last day to file application for teaching credentials for June 1962.
Mar. 30, Friday	End of first half of semester.
Apr. 16, Monday, to Apr. 21, Saturday	Spring recess.
Apr. 30, Monday	Final date to file master's theses with the committee in charge for degrees to be conferred in June 1962.
May 16, Wednesday, to May 25, Friday	Preregistration counseling.
May 18, Friday	Final date to file with the campus officer in charge of graduate affairs completed copies of theses for master's degrees to be conferred June 1962.
May 19, Saturday, to May 27, Sunday	Dead Week. No student- or faculty-sponsored evening student group meetings or social events are to be scheduled for this week.
May 26, Saturday	Instruction ends.
May 28, Monday, to June 7, Thursday	Final examinations.
May 30, Wednesday	Memorial Day. Academic and administrative holiday.
June 7, Thursday	Spring semester ends.

THE REGENTS OF THE UNIVERSITY

REGENTS EX OFFICIO

His Excellency, EDMUND G. BROWN, LL.B.
Governor of California and President of the Regents
State Capitol, Sacramento 14

GLENN M. ANDERSON, A.B.
Lieutenant-Governor of California
State Capitol, Sacramento 14

RALPH M. BROWN, A.B., LL.B.
Speaker of the Assembly
State Capitol, Sacramento 14

ROY E. SIMPSON, M.A., Litt.D.
State Superintendent of Public Instruction
721 Capitol av, Sacramento 14

JOHN S. WATSON, B.S.
President of the State Board of Agriculture
498 Pepper rd, Petaluma

WILLIAM G. MERCHANT
President of the Mechanics' Institute
804 Mechanics' Institute bldg,
San Francisco 4

JAMES W. ARCHER, A.B., LL.B.
President of the Alumni Association of the University of California
Gray, Cary, Ames and Frye
Bank of America bldg,
San Diego 1

CLARK KERR, Ph.D., LL.D.
President of the University
714 University Hall, Berkeley 4
2147 Administration bldg,
Los Angeles 24

APPOINTED REGENTS

The term of the appointed Regents is sixteen years, and terms expire March 1 of the years indicated in parentheses.

EDWIN W. PAULEY, B.S., LL.D. (1970)
Ten Thousand Santa Monica blvd,
Los Angeles 25

EDWARD H. HELLER, A.B. (1976)
100 Montgomery st, San Francisco 4

VICTOR R. HANSEN, LL.B. (1962)
1734 Earlmont av, La Canada

CORNELIUS J. HAGGERTY (1966)
A.F.L.-C.I.O. bldg, 815 Sixteenth st NW,
Washington 6, D.C.

JESSE H. STEINHART, A.B., LL.B., LL.D. (1962)
111 Sutter st, San Francisco 4

DONALD H. MCLAUGHLIN, B.S., M.A., Ph.D., D.Eng. (1966)
100 Bush st, San Francisco 4

GERALD H. HAGAR, A.B., J.D. (1964)
1520 Central bldg, 14th and Broadway,
Oakland 12

EDWARD W. CARTER, A.B., M.B.A. (1968)
401 S Broadway, Los Angeles 13

MRS. DOROTHY B. CHANDLER (1970)
202 W First st, Los Angeles 53

MRS. RANDOLPH A. HEARST (1974)
701 N Canon dr, Beverly Hills

SAMUEL B. MOSHER, B.S. (1972)
811 W Seventh st, Los Angeles 17

JOHN E. CANADAY, A.B. (1974)
Lockheed Aircraft Corporation,
Burbank

PHILIP L. BOYD, A.B. (1972)
3900 Market st, Riverside

JERD F. SULLIVAN, JR. (1964)
Crocker-Anglo National Bank,
1 Montgomery st, San Francisco 4

NORTON SIMON (1976)
Suite 1201, 3440 Wilshire blvd,
Los Angeles 5

WILLIAM M. ROTH, A.B. (1968)
215 Market st, San Francisco

OFFICERS OF THE REGENTS

His Excellency Edmund G. Brown, LL.B.
Governor of California
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State Capitol, Sacramento 14

Edwin W. Pauley, B.S., LL.D., Chairman
Ten Thousand Santa Monica blvd,
Los Angeles 25

Robert M. Underhill, B.S., Treasurer
615 University Hall, Berkeley 4

Stanley J. Thomson, A.B.
Assistant Treasurer
615 University Hall, Berkeley 4

Miss Marjorie J. Woolman, Secretary
689 University Hall, Berkeley 4

Mrs. Elizabeth O. Hansen, A.B.
Assistant Secretary
689 University Hall, Berkeley 4

Thomas J. Cunningham, A.B., LL.B., LL.D.
General Counsel of the Regents
590 University Hall, Berkeley 4

John E. Landon, A.B., LL.B.
Associate Counsel of the Regents
590 University Hall, Berkeley 4

John P. Sparrow, A.B., LL.B.
Associate Counsel of the Regents
590 University Hall, Berkeley 4

Robert C. Field, A.B., LL.B.
Assistant Counsel of the Regents
590 University Hall, Berkeley 4

Milton H. Gordon, A.B., LL.B.
Assistant Counsel of the Regents and Assistant Secretary of the Regents
590 University Hall, Berkeley 4

Mark Owens, Jr., A.B., LL.B.
Assistant Counsel of the Regents and Attorney in Residence Matters
590 University Hall, Berkeley 4

UNIVERSITY OF CALIFORNIA

GENERAL ADMINISTRATIVE OFFICERS

Clark Kerr, Ph.D., LL.D., *President of the University.*
Robert Gordon Sproul, B.S., LL.D., Litt.D., *President of the University, Emeritus.*
Harry R. Wellman, Ph.D., *Vice-President of the University.*
Claude B. Hutchison, M.S., LL.D., D.Agr. (hon.c.), *Vice-President of the University and Dean of the College of Agriculture, Emeritus.*
James H. Corley, B.S., *Vice-President—Governmental Relations and Projects.*
Thomas J. Cunningham, A.B., LL.B., LL.D., *Vice-President and General Counsel.*
Raymond W. Kettler, M.A., *Vice-President—Finance.*
Elmo R. Morgan, B.S., *Vice-President—Business.*
John W. Oswald, Ph.D., *Vice-President—Executive Assistant.*
Robert M. Underhill, B.S., *Vice-President and Treasurer of the Regents.*
Daniel G. Aldrich, Jr., Ph.D., D.Sc., *University Dean of Agriculture.*
Frank L. Kidner, Ph.D., *University Dean of Educational Relations.*
Dean E. McHenry, Ph.D., *University Dean of Academic Planning.*
Paul H. Sheats, Ph.D., *Dean of University Extension.*
Albert G. Pickerell, Ph.D., *Statewide Director of Information.*
Edward W. Strong, Ph.D., *Vice-Chancellor and Acting Chief Campus Officer at Berkeley.*
Emil M. Mrak, Ph.D., *Chancellor at Davis.*
Franklin D. Murphy, M.D., Sc.D., L.H.D., LL.D., *Chancellor at Los Angeles.*
Herman T. Spieth, Ph.D., *Chancellor at Riverside.*
Herbert F. York, Ph.D., *Chancellor at San Diego.*
Samuel B. Gould, M.A., LL.D., *Chancellor at Santa Barbara.*
John B. deC. M. Saunders, M.B., Ch.B., F.R.C.S. (Edin.), *Provost at San Francisco Medical Center.*

GENERAL ADMINISTRATIVE OFFICERS—SANTA BARBARA

Samuel B. Gould, M.A., LL.D., *Chancellor.*
Clarence L. Phelps, M.A., *Provost, Emeritus.*
J. Harold Williams, Ph.D., *Provost, Emeritus.*
A. Russell Buchanan, Ph.D., *Vice-Chancellor—Undergraduate Affairs.*
Stephen S. Goodspeed, Ph.D., *Vice-Chancellor—Student Affairs.*
Elmer R. Noble, Ph.D., *Vice-Chancellor—Graduate Affairs.*
———, *Dean of Letters and Science.*
Paul W. Wright, Ph.D., *Registrar.*
Lyle G. Reynolds, Ed.D., *Dean of Students.*
Ellen E. Bowers, M.A., *Associate Dean of Students—Dean of Women.*
John M. Groebli, Ph.D., *Associate Dean of Students—Dean of Men.*
———, *Assistant Dean of Students—Dean of Student Activities.*
Robert H. Billigmeier, Ph.D., *Foreign Student Adviser.*
Donald C. Davidson, Ph.D., *University Librarian.*
Lewis F. Walton, Ph.D., *Director of Summer Session.*
Herbert S. Thomson, A.B., *Assistant Chancellor for Business and Finance.*
Wilfred T. Robbins, M.D., *Director of Student Health Service.*
Elmer L. Chalberg, M.S., *Placement Office Manager.*
Velma Morrell, M.A., *Housing Supervisor.*
Ralph K. Nair, Ed.D., *Assistant Director, Office of Relations with Schools.*
Vernon Persell, M.A., *Counseling Center Manager.*

SANTA BARBARA*

OFFICERS OF INSTRUCTION

Staff for 1960–1961

Henry M. Adams, Ph.D.....Associate Professor of History
A.B., Lehigh University, 1930; M.A., University of Southern California, 1934; Ph.D., Stanford University, 1937.

Larry Lee Adams, M.A.....Acting Instructor in Political Science
A.B., University of California (Santa Barbara), 1958; M.A., 1961.

Phillip A. Adams, Ph.D.....Assistant Professor of Zoology
B.S., University of California (Berkeley), 1951; A.M., Harvard University, 1958; Ph.D., 1958.

Samuel Adams, M.A.....Junior Supervisor of Physical Education
A.B., University of California (Berkeley), 1954; M.A., University of California (Santa Barbara), 1961.

William F. Aggeler, Ph.D.....Professor of French
B.S., California Institute of Technology, 1925; M.A., University of California (Berkeley), 1932; Ph.D., 1939.

Pauline Alderman, Ph.D.....Visiting Professor of Music
A.B., Reed College, 1916; M.A., University of Washington, 1933; Ph.D., University of Southern California, 1946.

Henry R. Aldrich, Ph.D.....Visiting Professor of Geology
B.S., Massachusetts Institute of Technology, 1914; M.S., University of Minnesota, 1917; Ph.D., University of Wisconsin, 1931.

Alec P. Alexander, Ph.D.....Assistant Professor of Economics
A.B., University of California (Berkeley), 1949; Ph.D., 1957.

William D. Altus, Ph.D.....Professor of Psychology
A.B., B.S., Kansas State Teachers College (Emporia), 1930; M.A., 1932; Ph.D., New York University, 1941.

Marion P. Alves, M.A.....Associate in Home Economics
B.S., University of Minnesota, 1936; M.A., 1941.

Marian H. Anderson, M.S.....Associate Professor of Physical Education
A.B., Pomona College, 1929; M.S., University of Southern California, 1952.

Mortimer Andron, Ph.D.....Associate Professor of Economics
A.B., University of California (Los Angeles), 1936; M.A., University of Oregon, 1939; Ph.D., University of Illinois, 1942.

Pablo Avila, Ph.D.....Associate Professor of Spanish
A.B., Stanford University, 1931; M.A., 1932; Ph.D., 1937.

Kurt Baer, Ph.D.....Professor of Art
A.B., University of California (Berkeley), 1925; M.A., 1926; Ph.D., University of Southern California, 1936.

Gordon E. Baker, Ph.D.....Associate Professor of Political Science
A.B., Reed College, 1948; M.A., University of Washington, 1949; Ph.D. Princeton University, 1952.

Helen M. Barnett, M.A.....Associate Professor of Music, Emeritus
A.B., University of California (Berkeley), 1928; M.A., University of Southern California, 1932.

Paul H. Barrett, Ph.D.....Associate Professor of Physics
B.S., Montana State College, 1944; Ph.D., University of California (Berkeley), 1951.

* The *Catalogue* contains the following list of the Officers of Instruction for 1960–1961, and listings, by department, of known teaching staff for 1961–1962 with general information on courses of instruction pertaining to 1961–1962.

Susanne D. Barrymore, A.B.....Associate in Biology
A.B., University of Michigan, 1954.

B. Gene Bartow, M.S.....Assistant Supervisor of Physical Education
B.S., Northeast Missouri State College, 1952; M.S., Washington University, St. Louis, 1957.

David A. Bary, Ph.D.....Assistant Professor of Spanish
A.B., University of California (Berkeley), 1948; M.A., 1950; Ph.D., 1956.

Michael L. Baumann, M.A.....Lecturer in English
A.B., Reed College, 1950; M.A., University of Pennsylvania, 1956.

Robert Beachboard, Docteur de l'Université de Paris.
Associate Professor of French
A.B., Pennsylvania State University, 1932; Docteur de l'Université de Paris, 1939.

Barbara A. Bentley, A.B.....Assistant in Home Economics
A.B., Santa Barbara State College, 1942.

Ernest L. Bickerdike, Ph.D.....Professor of Chemistry
A.B., University of Southern California, 1930; M.A., 1932; Ph.D., 1937.

Charlotte E. Biester, Ed.D.....Professor of Home Economics
A.B., University of Illinois, 1921; M.A., Columbia University, 1939; Ed.D., Colorado State College of Education, 1950.

Robert H. Billigmeier, Ph.D.....Assistant Professor of Sociology
A.B., Stanford University, 1938; M.A., University of California (Berkeley), 1939; Ph.D., Stanford University, 1951.

Arthur D. Bissell, M.D.....Acting Assistant Professor of Biology
B.S., Northwestern University Medical School, 1928; M.D., 1930.

Helmut W. Bonheim, Ph.D.....Assistant Professor of English
A.B., Cornell University, 1951; M.A., Columbia University, 1952; Ph.D., University of Washington, 1959.

Edgar Bowers, Ph.D.....Assistant Professor of English
A.B., University of North Carolina, 1947; M.A., Stanford University, 1949; Ph.D., 1953.

Alice V. Bradley, M.A.....Professor of Home Economics, Emeritus
B.S., University of Wisconsin, 1915; M.A., Whittier College, 1933.

Loy S. Braley, Ph.D.....Assistant Professor of Psychology
A.B., University of Buffalo, 1951; Ph.D., 1959.

Hazel B. Breslin, M.A.....Associate in Home Economics
B.S., University of Alberta, 1953; M.A., Washington State University, 1955.

D. Mackenzie Brown, Ph.D.....Professor of Political Science
A.B., Pomona College, 1929; M.A., Stanford University, 1931; Ph.D., 1935.

Katherine M. Brown, M.S.....Junior Supervisor of Physical Education
B.S., Louisiana State University, 1941; M.S., University of Utah, 1955.

Lloyd Browning, M.A.....Professor of Music
B.Mus., Chicago Musical College, 1924; M.A., Claremont Graduate School, 1951.

Andrew M. Bruckner, Ph.D.....Assistant Professor of Mathematics
A.B., University of California (Los Angeles), 1955; Ph.D., 1959.

A. Russell Buchanan, Ph.D.....Professor of History
A.B., Stanford University, 1927; M.A., 1928; Ph.D., 1935.

Nancy Lee Butler, M.A.....Junior Supervisor of Physical Education
B.Ed., University of Toledo, 1949; M.A., Teachers College, Columbia University, 1954.

Loretta M. Byers, Ed.D.....Professor of Education
B.S., Northwestern University, 1933; M.A., Stanford University, 1937; Ed.D., 1949.

Catherine C. Campbell, M.A.....Associate Professor of Art
B.E., University of California (Los Angeles), 1934; M.A., Claremont Colleges, 1943.

James E. Campbell, Captain, Military Police Corps, U. S. Army
Assistant Professor of Military Science
A.B., Fordham University, 1936; M.A., Seton Hall University, 1939.

Lelon R. Capps, Ph.D.....Acting Assistant Professor of Education
B.S., Wisconsin State College, 1954; M.A., University of Minnesota, 1957; Ph.D., 1960.

Darvey E. Carlsen, M.S.....Associate Professor of Industrial Arts
B.S., The Stout Institute, Menomonie, Wisconsin, 1944; M.S., 1946.

Ernest N. Carter, M.A.....Associate Supervisor of Physical Education
A.B., Occidental College, 1927; M.A., Claremont Graduate School, 1952.

Robert L. Casier, M.A.....Acting Instructor in Political Science
A.B., University of California (Santa Barbara), 1949; M.A., San Francisco State College, 1954.

Jack G. Ceder, Ph.D.....Assistant Professor of Mathematics
B.S., University of Washington, 1955; M.S., 1957; Ph.D., 1959.

Seymour L. Chapin, A.B.....Acting Instructor in History
A.B., University of California (Los Angeles), 1951.

Roger E. Chapman, Ph.D.....Assistant Professor of Music
A.B., University of California (Los Angeles), 1937; M.A., 1950; Ph.D., 1954.

John H. Chilcott, Ph.D.....Assistant Professor of Education
A.B., Harvard University, 1948; M.Ed., University of Colorado, 1952; Ph.D., University of Oregon, 1958.

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B.S., DePaul University, 1951; M.Ed., 1957.

Homer T. Russell, Jr., Ph.D.....Associate in Biology
B.S., University of Oklahoma, 1951; M.S., 1953; Ph.D., University of California (Los Angeles), 1961.

Lester B. Sands, Ed.D.....Professor of Education
A.B., Stanford University, 1929; M.A., 1933; Ed.D., 1939.

Benjamin T. Sankey, Jr., Ph.D.....Assistant Professor of English
A.B., M.A., Johns Hopkins University, 1951; Ph.D., 1955.

Joseph J. Sayovitz, Ph.D.....Associate Professor of Industrial Arts
B.S., Minnesota State Teachers College (St. Cloud), 1941; M.S., Iowa State College, 1947; Ph.D., University of Minnesota, 1955.

Paul L. Scherer, Ed.D.....Associate Professor of Industrial Arts
B.S., Ohio State University, 1930; M.A., Western Reserve University, 1938; Ed.D., 1951.

Edwin R. Schoell, Ph.D.....Associate Professor of Speech and Drama
A.B., Louisiana State University, 1939; M.A., University of Denver, 1947; Ph.D., 1951.

Otey M. Scruggs, Ph.D.....Assistant Professor of History
A.B., University of California (Santa Barbara), 1951; M.A., Harvard University, 1952; Ph.D., 1958.

Kermit A. Seefeld, Ed.D.....Professor of Education
B.Ed., State Teachers College (Oshkosh), 1932; M.Ed., Colorado Agricultural and Mechanical College, 1946; Ed.D., Stanford University, 1949.

Alexander Sesonske, Ph.D.....Assistant Professor of Philosophy
A.B., University of California (Los Angeles), 1949; Ph.D., 1954.

Hazel W. Severy, M.A., D.Sci.O.....Professor of Chemistry, Emeritus
A.B., Stanford University, 1907; M.A., 1921; D.Sci.O., Osteopathic College of Physicians and Surgeons, 1914.

Clovis R. Shepherd, Ph.D.....Assistant Professor of Sociology
A.B., University of Texas, 1948; M.A., 1952; Ph.D., University of California (Los Angeles), 1958.

Kenneth B. Shover, M.A.....Lecturer in History
A.B., University of Kansas City, 1948; M.A., 1949.

Elvera Skubic, Ph.D.....Associate Professor of Physical Education
B.S., University of Illinois, 1940; M.S., University of California (Los Angeles), 1948; Ph.D., University of Southern California, 1954.

John C. Snidecor, Ph.D.....Professor of Speech and Drama
A.B., University of California (Berkeley), 1931; M.A., State University of Iowa, 1937; Ph.D., 1940.

Hobart H. Sorensen, M.A.....Lecturer in English
A.B., University of Iowa, 1939; M.A., Teachers College, Columbia University, 1948.

Roy L. Soules, M.S.....Professor of Industrial Arts, Emeritus
A.B., Santa Barbara State College, 1926; M.S., University of Southern California, 1935.

Shirley R. Sparling, Ph.D.....Instructor in Botany
B.S., Iowa State University, 1950; M.S., 1951; Ph.D., University of California (Berkeley), 1956.

Charles B. Spaulding, Ph.D.....Professor of Sociology
A.B., University of Southern California, 1932; M.A., 1933; Ph.D., 1939.

Alan A. Stephens, Ph.D.....Assistant Professor of English
A.B., University of Denver, 1949; M.A., 1949; Ph.D., University of Missouri, 1954.

Lealand D. Stier, Ph.D.....Assistant Professor of Education
A.B., University of California (Berkeley), 1935; M.A., 1941; Ph.D., 1948.

Elizabeth Ann Stitt, M.S.....Assistant Professor of Physical Education
A.B., Mills College, 1945; M.S., Wellesley College, 1949.

Douwe Stuurman, M.A., B.Litt. (Oxon.).....Associate Professor of English
A.B., Calvin College, 1931; M.A., University of Oregon, 1933; B.Litt. (Oxon.), Oxford University, 1936.

Homer D. Swander, Ph.D.....Assistant Professor of English
A.B., University of Michigan, 1943; M.A., 1947; Ph.D., 1953.

Edwin J. Swineford, Ed.D.....Assistant Professor of Education
A.B., Fresno State College, 1936; M.A., University of California (Berkeley), 1949; Ed.D., University of Virginia, 1952.

Louie S. Taylor, Ed.D.....Associate Professor of Industrial Arts
A.B., Santa Barbara State Teachers College, 1934; M.A., Claremont Colleges, 1939; Ed.D., Oregon State College, 1951.

Mark J. Temmer, Ph.D.....Assistant Professor of French
A.B., Colby College, 1942; M.A., Yale University, 1947; Ph.D., 1952.

Robert C. Thomas, M.F.A.....Assistant Professor of Art
A.B., University of California (Santa Barbara), 1951; M.F.A., California College of Arts and Crafts, 1952.

Frederick B. Thompson, Ph.D.,.....Lecturer in Mathematics
A.B., University of California (Los Angeles), 1946; M.A., 1947; Ph.D., University of California (Berkeley), 1952.

Raymond H. Thornton, M.A.....Assistant Superviser of Physical Education
A.B., University of California (Santa Barbara), 1953; M.A., Long Beach State College, 1954.

Mary Tiffany, M.A.....Assistant Professor of Physical Education
A.B., Michigan State University, 1939; M.A., University of Southern California, 1959.

Edward L. Triplett, Ph.D.....Assistant Professor of Biology
A.B., Stanford University, 1951; Ph.D., 1956.

John F. Tull, Jr., Ph.D.....Assistant Professor of Spanish
A.B., Yale University, 1953; Ph.D., 1958.

Henry A. Turner, Ph.D.....Associate Professor of Political Science
B.S., Northwest Missouri State College, 1939; M.A., University of Missouri, 1941; Ph.D., University of Chicago, 1950.

Dorothy D. VanDeman, M.A.....Associate Professor of Education
A.B., Whittier College, 1931; M.A., Claremont Colleges, 1934.

Vertress L. VanderHoof, Ph.D.....Research Associate and Lecturer in Geology
A.B., University of California (Berkeley), 1929; M.A., 1931; Ph.D., 1935.

Gladys R. Van Fossen, M.A.
Associate Professor of Physical Education, Emeritus
A.B., University of Minnesota, 1921; M.A., Columbia University, 1931.

Philip D. Walker, Ph.D.....Assistant Professor of French
A.B., Yale University, 1947; M.A., 1951; Ph.D., 1956.

William C. Walker, Ph.D.....Assistant Professor of Physics
A.B., University of California (Santa Barbara), 1950; M.S., University of Southern California, 1953; Ph.D., 1955.

James L. Walters, Ph.D.....Associate Professor of Biology
B.S., University of Chicago, 1937; Ph.D., University of California (Berkeley), 1949.

Lewis F. Walton, Ph.D.....Professor of Mathematics
B.S., Emory University, 1929; M.S., 1931; Ph.D., University of California (Berkeley), 1940.

Howard Warshaw .....Assistant Professor of Art

Donald W. Weaver, Ph.D.....Assistant Professor of Geology
A.B., University of California (Berkeley), 1954; M.A., 1957; Ph.D., 1960.

Robert W. Webb, Ph.D.....Professor of Geology
A.B., University of California (Los Angeles), 1931; M.S., California Institute of Technology, 1932; Ph.D., 1937.

Harrington Wells, M.A.....Associate Professor of Science Education
A.B., Stanford University, 1923; M.A., 1924.

Adrian M. Wenner, Ph.D.,.....Associate in Biology
B.S., Gustavus Adolphus College, 1951; M.A., Chico State College, 1955; Ph.D., University of Michigan, 1961.

Dorothy Westra, M.S.M.....Assistant Professor of Music
B.S., Teachers College, Columbia University, 1934; M.S.M., Union Theological Seminary, 1936.

Paul D. Wienpahl, Ph.D.....Associate Professor of Philosophy
A.B., University of California (Los Angeles), 1937; M.A., 1939; Ph.D., 1946.

John Wilkinson, Ph.D.....Assistant Professor of Philosophy
B.S., University of Pennsylvania, 1936; M.S., 1939; Ph.D., University of Chicago, 1954.

Alma V. Williams, Ph.D.....Assistant Professor of Education
A.B., Colorado State Teachers College, 1936; M.A., University of Washington, 1945; Ph.D., 1953.

E. Allan Williams, Ph.D.....Professor of Physics
A.B., Morningside College, 1929; M.S., University of Washington, 1931; Ph.D., 1941.

Robert V. Williams, M.A.....Lecturer in English
A.B., Cornell University, 1948; M.A., Stanford University, 1950.

Stanley L. Williamson, M.S.....Associate Professor of Physical Education
B.S., University of Southern California, 1933; M.S., 1950.

Lawrence Willson, Ph.D.....Associate Professor of English
A.B., Wesleyan University, 1934; M.A., Yale University, 1942; Ph.D., 1944.

Clayton Wilson, M.Mus.....Associate Professor of Music
B.Mus.Ed., Northwestern University, 1941; M.Mus., 1942.

John A. R. Wilson, Ed.D.....Associate Professor of Education
A.B., University of British Columbia, 1932; M.A., 1939; Ed.D., Oregon State College, 1951.

Marie R. Wilson, M.S.....Assistant Professor of Home Economics
B.S., Iowa State College, 1925; M.S., Colorado Agricultural and Mechanical College, 1940.

Wilton M. Wilton, Ed.D.....Associate Professor of Physical Education
A.B., Santa Barbara State College, 1936; M.A., Claremont Colleges, 1947; Ed.D., University of California (Los Angeles), 1957.

Lois F. Witte, Pe.D.....Assistant Professor of Physical Education
B.S., Indiana State Teachers College, 1943; M.S., Indiana University, 1949; Pe.D., 1953.

Samuel A. Wofsy, Ph.D.....Professor of Spanish
LL.B., Washington and Lee University, 1916; A.B., University of Wisconsin, 1922; M.A., 1923; Ph.D., 1927.

C. Douglas Woodhouse, LL.M....Assistant Professor of Mineralogy, Emeritus
A.B., Williams College, 1910; LL.B., Columbia University, 1913; LL.M., University of California (Berkeley), 1925.

George C. Woolsey, Colonel, Infantry, U. S. Army
Professor of Military Science

Adil M. Yaqub, Ph.D.....Visiting Associate Professor of Mathematics
A.B., University of California (Berkeley), 1950; M.A., 1951; Ph.D., 1955.

Lotar Zahradka, Ph.D.....Visiting Assistant Professor of Philosophy
A.B., University of Zagreb, Yugoslavia, 1946; B.S., 1947; Ph.D., University of California (Berkeley), 1958.

Walter J. Zarnowski, Major, Infantry, U. S. Army
Assistant Professor of Military Science

Eugene M. Zaustinsky, Ph.D.....Assistant Professor of Mathematics
A.B., University of California (Los Angeles), 1948; M.A., University of Southern California, 1954; Ph.D., 1957.

Carl B. Zytowski, M.A.....Associate Professor of Music
B.Mus., St. Louis Institute of Music, 1949; M.A., University of Washington, 1951.

THE UNIVERSITY OF CALIFORNIA

FOUNDED 1868

The University of California is composed of academic colleges, professional schools, divisions, departments of instruction, museums, libraries, research institutes, bureaus and foundations, and the University of California Press. It is comprised of seven different campuses throughout the State, namely: Berkeley, Los Angeles, San Francisco, Davis, Riverside, San Diego, and Santa Barbara. The University also maintains several field stations of the Agricultural Experiment Station in various parts of the State.

SANTA BARBARA CAMPUS

ITS DEVELOPMENT

The University of California, Santa Barbara, has undergone an extensive evolution to its present status as a campus of the Statewide University.

In 1891, this institution began as the Anna S. C. Blake Training School, a private school located in the West Building at State and Haley Streets. Eight years later, it was taken over by the city of Santa Barbara and became Santa Barbara Manual Training Normal School. In 1906 a teacher training program was added. Governor James M. Gillette signed a bill on April 26, 1909, establishing the Santa Barbara State Normal School of Manual Arts and Home Economics; thus, the school became the first institution in the United States to be devoted exclusively to teacher training in manual arts and home economics. During the first twenty years of its existence, the school was devoted wholly to the training of women. In 1911, however, the first male student was enrolled. In 1919 the curriculum was broadened to include the education of elementary teachers, and the name was changed to Santa Barbara State Normal School. This designation lasted for only two years, and in 1921 it was renamed the Santa Barbara State Teachers College. It became the first California State College to be admitted to the American Association of Teachers Colleges. In 1922 the teachers' colleges began gradual development of a four-year general education program. Santa Barbara began awarding the Bachelor of Arts degree in 1927 and soon thereafter the entire graduating class received this baccalaureate degree. As the broadening of the curricula into several fields progressed, the institution became Santa Barbara State College in 1935. By this time the character of the program changed markedly and forty-three per cent of the graduates were in nonteaching fields. In 1941 there were 412 graduates, the second largest class among the California state colleges.

In the history of the campus development, the College in 1913 moved from a single downtown building to a fourteen-acre campus on the Riviera. Further expansion was anticipated in 1932 when the Mesa campus was purchased and one building for the Industrial Arts Department was constructed. With the availability of the present campus location near Goleta, plans were then changed to move all departments to the new site. Classes opened on the new campus in the fall of 1954.

Santa Barbara State College became a campus of the University of California in 1944, and was known as Santa Barbara College. It was made a general campus of the University in 1958. The University of California, Santa Barbara, has regional accreditation from the Western College Association.

THE CAMPUS

The University's Santa Barbara campus is situated on a scenic seashore near the community of Goleta, ten miles up the coast from the city of Santa Barbara. On its promontory of 408 acres, the campus views the majestic Santa Ynez Mountains on one side and the Pacific on the other, stretching out to the distant Channel Islands.

Twelve new permanent buildings have been erected on the coastal site—Library, Physical Science, Biological Science, Music Building, Classroom Building, Arts Building, Physical Education (Robertson Gymnasium), and the following residence hall accommodations: Santa Rosa Hall (for 400 women), Anacapa Hall (for 400 men), Santa Cruz Hall (for 400 women), Ortega Dining Commons, and de la Guerra Dining Commons. During the 1961–1962 year, residence halls on the campus can accommodate 1,700 of the more than 4,000 students expected to enroll. Other new buildings are in the construction and planning stage.

The campus site was formerly a World War II Marine Air Base, and 60 of the military-type buildings have been attractively converted for university use until they are replaced by new structures.

The ample recreational facilities on the campus include tennis courts, swimming pool, campus beaches, playfields, track, baseball diamond, gymnasium, and a small golf course.

THE COLLEGE OF LETTERS AND SCIENCE

The College of Letters and Science introduces students to the most basic and important fields of human intellectual and artistic achievement. Its curricula constitute basic preparation for the most significant roles in our society. All freshmen coming to Santa Barbara enroll for their first two years in this College, and many of them complete their college careers within it.

In order to achieve its objectives the College expects each student who graduates from it to complete one of the two programs of general education (see pages 64 to 66) and to select one of the majors offered by the various departments of the College. Although many of the majors are broadly liberal in their orientation, the special purpose of the general education requirements is to provide each student with the fundamentals of a liberal education. He will increase his skill in the use of the English language and his knowledge of literature. He will engage in study to make him intelligently aware of the historical background and contemporary characteristics of his society. He will examine his cultural, artistic, and philosophical heritage and will analyze the scientific, political, and social forces that influence him in his environment.

The student's selection of a major subject will allow him the experience of concentrated study in logically related courses and may serve to prepare him for a profession or to lay a sound basis for further education in graduate or professional schools.

In addition to the requirements of his major and of the appropriate General Education Program the student will normally have some opportunity to select other courses of interest to him—he will have some free electives.

MAJOR FIELDS OF STUDY IN THE COLLEGE OF LETTERS AND SCIENCE

The following majors are available in the College of Letters and Science: anthropology, art, art and home economics, biology, botany, chemistry, drama, East Asian studies, economics, education, English, French, geology, German, Hispanic civilization, history, home economics, industrial arts, mathematics, music, philosophy, physical and health education, physical science, physics, political science, psychology, social science, sociology, Spanish, speech, tutorial program, zoology.

The student should choose his major field of study with great care. Personal preference, individual qualifications, and future ambitions should be carefully weighed. It should be kept in mind that a change of major after entering the upper division is likely to prove costly in both units and time.

SCHOOL OF ENGINEERING

In January 1961 the Regents of the University of California authorized the establishment of a School of Engineering at the University of California, Santa Barbara. Freshmen will be admitted to the pre-engineering program in the fall of 1961. (See Special Requirements for Engineering, pages 40–41.) Since this *General Catalogue* goes to press at an early date, details of the new engineering program will be announced later in a separate brochure or an insert for this catalogue.

TEACHER EDUCATION

The following teaching credentials are available to students in the College of Letters and Science: kindergarten-primary; general elementary; general junior high school; special secondary credentials in art, music, physical education, homemaking, and industrial arts education; and the special credential to teach exceptional children (speech correction). Most departments offer both majors and minors for the general secondary credential porgrams.

EXPERIMENTAL PROGRAM—INSTRUCTORS FOR COLLEGES

This campus of the University embarked in 1960 on an enriched program for superior students, culminating in a master's degree, leading to a career in college teaching. Through the financial sponsorship of the Ford Foundation, a five-year grant makes possible special attention to the development of talents for college teaching. Students are selected during the last half of the sophomore year, and over the ensuing three years earn bachelor's and master's degrees in the disciplines of their choice. During the three years, faculty sponsors work closely with students to provide opportunity for teaching, study, and experience, and, on occasion, develop special courses and seminars. Limited to twenty-five students each year, the program provides special consideration of individual interests. The junior college teaching credential may be elected by students in this program. Information may be obtained from the Director, Experimental Program—Instructors for Colleges; Physical Science Building, Room 1001, Campus.

THE HONORS PROGRAM

Undergraduate students with outstanding academic achievements will be invited to participate in the Honors Program. Invitations to entering freshmen will be based on their high school grade averages and Scholastic Aptitude Test Scores. The selection of other students will result from their achievement of high grades in the University or in other outstanding collegiate institutions.

Honors students will be invited by letter to enroll in certain classes and sections designed especially for their needs.

The Honors Program must be distinguished from the granting of Honors at Entrance as described on page 38. While a particular student may be granted Honors at Entrance and also be invited into the Honors Program, he may be selected for either one alone.

REGULAR AND SUMMER SESSIONS

The academic calendar year of the University of California, Santa Barbara, is divided into two equal semesters, the fall semester beginning in September and the spring semester ending in June. In addition, there is a summer session

offering courses in most departments. An integral part of the teacher education program is an Elementary Demonstration School and a Remedial Room for children.

THE UNIVERSITY LIBRARY

The campus library houses a collection of 145,000 books, 12,000 pamphlets, 50,000 government documents, and 4,000 phonograph records. The book stacks are arranged to permit easy access. Only the Wyles Collection, other Special Collections and reference materials are restricted from circulation. Several audio-visual rooms are provided for listening to records and viewing films or slides. A sun deck and a typing room are among other special facilities.

The Wyles Collection of 13,500 volumes, gift of the late William Wyles of Santa Barbara, is one of the most extensive collections of Lincolniana and Civil War material in the West. The books, periodicals, and pamphlets in this collection are housed in a separate room and are for use only in the library.

Early in 1962 Unit II of the Library will be ready for occupancy. This will double library facilities, providing 1,300 seats, a second entrance to the building, more listening rooms and group studies, and a new Reserved Books-Reading Room area.

INFORMATION FOR VETERANS

The Office of the Dean of Students maintains liaison between certain veterans and veterans' dependents, and the Veterans Administration, the State Department of Veterans Affairs, and other agencies offering veterans educational benefits; and assists veterans in becoming assimilated into the life and spirit of the University. On the Santa Barbara campus this office is located in Room 116, Bldg. 402. Offices of the United States Veterans Administration are located as follows: Regional Office, 49 Fourth Street, San Francisco 3, California; and Regional Office, 1380 South Sepulveda Boulevard, Los Angeles 25.

Information regarding educational benefits available from the State of California (CVEI) may be obtained from Department of Veterans Affairs, Division of Educational Assistance, 1227 O Street, Sacramento 14, California; 515 Van Ness Avenue, San Francisco 2, California; or 1736 Westwood Blvd., Los Angeles 25, California.

Veterans wishing to enroll under the provisions of Public Law 550 (Korea G.I. Bill) should obtain from the United States Veterans Administration a Certificate for Education and Training which should be filed with the Dean of Students' Office at the time of registration. These veterans must be prepared to pay all fees and educational costs at the time of registration, as education and training allowances are paid the veteran by the Veterans Administration and the first monthly payment will normally be received 60 to 75 days after compliance with the above. P. L. 894 veterans must have authorization from their training officer, and California State veterans must have authorization certificates.

Eight units of elective credit may be allowed upon petition to honorably discharged veterans or continuing members of the Armed Forces who have completed four or more months of active duty in the Armed Forces of the United States. These are elective units and cannot be used to satisfy any specific graduation requirement. Petitions for these units may be obtained in the Office of the Dean of Students.

SELECTIVE SERVICE

Matters relating to the deferment of students eligible under Selective Service are handled by the Office of the Dean of Students, Building 402, Room 116. Certifications regarding enrollment, class standing and other pertinent in-

formation will be submitted to the student's Selective Service board upon request. To be considered for deferment by Selective Service, the student must be pursuing a full-time course of instruction. For undergraduates this consists of at least 30 units per year (July 1 to June 30) and must include at least 12 units passed each semester. *Noncredit courses such as Subject A are not included.* Students who plan to seek deferment continuously until qualified for the bachelor's degree should understand that present policies of Selective Service permit continuous deferment only through the eighth semester of college residence, including not only the period of residence at the University of California, but also all semesters spent at junior colleges or other collegiate institutions. Students should plan course sequences for several semesters ahead so that prerequisites for all desired advanced courses can be satisfied within the eight-semester period. To qualify as a full-time graduate student, the student must be in residence, actually spend full time on his studies, and meet the criteria generally applied for normal progress toward the degree—that is, two years or less for the master's degree and four years or less for the doctor's degree (including time spent working toward the master's degree, if taken). Students desiring deferment on the basis of enrollment in the R.O.T.C. program should consult the Department of Military Science.

OTHER CAMPUSES OF THE UNIVERSITY OF CALIFORNIA

BERKELEY

The Berkeley campus offers the full range of University curricula in the humanities, the social sciences, and biological sciences and the physical sciences. In the College of Letters and Science there are *undergraduate* courses in fifty-nine or more subjects ranging from agricultural economics to zoology, with pre-professional training in business administration, criminology, dentistry, education, law, librarianship, medicine, nursing, optometry, pharmacy, public health, social welfare, and veterinary medicine. Undergraduate courses are also offered on the Berkeley campus in the colleges and schools of Agriculture, Architecture, Business Administration, Chemistry, Engineering, Forestry, Optometry, and Public Health. *Graduate* courses are offered in most of the departments of the College of Letters and Science, and in the schools and colleges of Graduate Business Administration, Chemistry, Education, Engineering, Environmental Design, Forestry, Law, Optometry, Public Health, and Social Welfare. To aid in graduate study and research, there are committees, bureaus, and institutes covering social economics, engineering, geophysics, human development, industrial relations, international studies, personality assessment, transportation and traffic, business and economics, international relations, public administration, and radiation and virus laboratories.

DAVIS

The general campus at Davis, through its Colleges of Letters and Science, Engineering, and Agriculture, and School of Veterinary Medicine offers a broad range of undergraduate studies in the arts and sciences, and many graduate programs, both general and professional. The College of Letters and Science, with majors in twenty-four fields, and pre-professional training in dentistry, medicine, nursing, pharmacy, physical therapy, and social welfare accounts for most of the undergraduate enrollment. The College of Engineering offers instruction common to all fields of engineering leading to the B.S. degree. The College of Agriculture gives four-year degree undergraduate courses in home economics, food science, and dietetics in addition to agriculture (economics, education, management, production), animal husbandry, animal science, animal physiology, entomology and parasitology, irrigation,

plant science, range management, soil science, and pre-professional training in forestry and veterinary medicine. The School of Veterinary Medicine has a four-year professional curriculum leading to the degree of Doctor of Veterinary Medicine. In addition to veterinary medicine, graduate study is offered at Davis in thirty-four fields, including teacher education.

LOS ANGELES

Undergraduate instruction, leading to the degrees of Bachelor of Arts and Bachelor of Science, is offered in the College of Letters and Science with pre-professional curricula in business administration, criminology, dentistry, dental hygiene, medicine, and pharmacy; and in the colleges and schools of agriculture, fine arts, business administration, engineering, public health, and nursing; in the School of Law leading to the degree of Bachelor of Laws; and in the School of Medicine leading to the degree of Doctor of Medicine. For certain curricula in the College of Agriculture, students may register at Los Angeles for the first two years. The School of Education supervises curricula leading to certificates and credentials. Graduate study and research is offered leading to degrees of Master of Arts, Master of Science, Master of Business Administration, Master of Education, Master of Engineering, Master of Library Science, Master of Public Administration, Master of Public Health, and Master of Social Welfare, and to the degrees of Doctor of Philosophy, Doctor of Education, and Doctor of Public Health.

RIVERSIDE

The Riverside campus, established in 1907, comprises the Citrus Experiment Station, the College of Letters and Science, the College of Agriculture, the Agricultural Extension Service, and University Extension. The Citrus Experiment Station is one of the world's largest research institutions devoted to subtropical horticulture. It has a staff of 115 academic scientists and 150 technicians in eight research departments. The College of Letters and Science, opened in 1954, is a four-year liberal arts college offering the degree of Bachelor of Arts in three divisions: humanities, life sciences, and social sciences, and four departments: chemistry, geology, mathematics, and physics. Curricula are also provided for teaching credentials and for students planning to enter dentistry, medicine and allied arts. The College of Agriculture, established in July 1960, expects to initiate instruction in the fall of 1961. The Agricultural Extension Service disseminates to growers and processors in fifty-five counties, research information developed by agricultural scientists on the Riverside campus. The educational services of University Extension are designed for the adult organized around three primary aims: to help men and women advance professionally; to aid them in meeting their responsibilities as citizens; to assist in their pursuit of intellectual interests.

SAN DIEGO

The Scripps Institution of Oceanography became an integral part of the University in 1912. In 1960 the name "University of California, San Diego" was chosen by the Regents to designate what will eventually become a full-fledged university offering undergraduate and graduate work in the many fields of learning, with chief emphasis to be given during the coming few years toward building up a strong curriculum in the physical and natural sciences. Quarters and faculty are currently being developed for a new School of Science and Engineering established by the Regents in 1958. The Scripps Institution will be an important component of the University at San Diego. Upper division and graduate courses in oceanography and marine biology are offered there, as well as physics, chemistry, and the earth sciences. Facilities for oceanographic study at sea consist of eight research vessels, buoy boat, pier, and a salt-water system. Scripps is the world's largest oceanographic research institution.

SAN FRANCISCO MEDICAL CENTER

The San Francisco campus is a comprehensive center for teaching, research, and service in the health sciences. The Schools of Medicine, Dentistry, Pharmacy, and Nursing offer instruction in the major health professions and such ancillary fields as physical therapy and dental hygiene, in addition to postgraduate academic and professional programs. The physical plant, greatly expanded in the past decade, includes the H. C. Moffitt and University of California Hospitals, the Medical Sciences Building, medical and dental clinics, and the Langley Porter Neuropsychiatric Institute (operated jointly with the State). Widely-recognized, special research institutes and foundations include those in cancer, cardiovascular diseases, tropical medicine and epidemiology, metabolic disorders, and eye diseases. All Medical Center curricula require preprofessional education, and special admission tests are required for medicine and dentistry.

COOPERATING INSTITUTIONS

By special arrangements the Santa Barbara Museum of Art, the Santa Barbara Museum of Natural History, and the Music Academy of the West, all with large private endowments and excellent reputations and facilities, and the University of California, Santa Barbara, work together in the fields represented by these institutions. A number of university classes have been carried on during the past few years at the Museum of Natural History, and important programs and classes at the Museum of Art have been arranged for the students of the University. Similarly, the facilities of the Santa Barbara Botanic Garden are available to classes and advanced students in biology. A research laboratory has been established at the Garden specifically for independent investigation by students and faculty.

Hillside House, a privately endowed home and school for cerebral palsied children, serves as an observation laboratory for students in psychology and speech. St. Vincent School, a private Catholic institution, Lawrence Parma School, Santa Barbara and Ventura City Schools, Santa Barbara County Schools, and Devereux Ranch School meet a similar need for those interested in problems of the handicapped.

UNIVERSITY EXTENSION

University Extension is the division of the University that extends educational opportunities on the university level to the adult population of California. Programs are offered not only on the campuses of the University but also in off-campus locations accessible to the great majority of the people of the State.

Extension programs are planned to meet the special needs of many different adult groups. These programs include classes, conferences, seminars, correspondence courses, discussion groups, lectures, musical and dramatic performances, and film and television series. They range from single events and concentrated one-day conferences to courses lasting a semester and to certificate programs requiring up to several years. Supplementing these programs are a film library and the Vocational Counseling and Testing Service.

Many Extension programs are organized to meet the needs of professional groups who wish to supplement their already advanced formal education: doctors, lawyers, engineers, scientists, teachers, dentists, specialists in industry, and others. Extension offerings of a more general nature are open to all adults who, regardless of previous educational background, can profit from them.

In general, an adult is likely to enroll in an Extension activity if he is among the hundreds of thousands of adults in California who wish to:

1. Prepare for better jobs in private industry and civil service.

2. Keep abreast of new developments and improve professional standing as teachers, engineers, scientists, real estate brokers and salesmen, and industrial specialists.
3. Work toward a University degree.
4. Continue intellectual growth and broaden cultural horizons.

The University of California Conference Center, located on the north shore of Lake Arrowhead, provides a secluded atmosphere for many Extension programs. The facilities, which can accommodate up to 120 persons, afford conference participants an opportunity to study, live, and dine together for the duration of programs ranging in length from two days to two weeks.

University Extension has an office on the campus of the University of California, Santa Barbara. Through this office, the intellectual resources of this campus as well as of other campuses of the statewide University may be made available to the adult public in the Tri-County Area (Ventura, Santa Barbara, and San Luis Obispo Counties). Prior to each semester, a bulletin is published listing University Extension offerings in the Tri-County Area. Other announcements of special programs are issued periodically.

The Santa Barbara campus office, in Room 2228 of the Arts Building, serves the Tri-County public in many ways. Persons should visit, write, or phone University Extension; University of California, Santa Barbara; University, California; Phone: WOodland 7-3477, if they wish to:

1. Receive bulletins listing classes, correspondence courses, or special programs.
2. Request additional courses in their community.
3. Obtain tickets for Santa Barbara campus events, (lectures, concerts, and dramatic performances).
4. Order educational films from the University Extension film library in Berkeley.
5. Make an appointment for vocational counseling and testing at the Los Angeles office.
6. Organize a conference, seminar, or workshop for a professional group.

ADMISSION TO THE UNIVERSITY OF CALIFORNIA

ADMISSION IN UNDERGRADUATE STATUS

AN APPLICANT WHO WISHES to enter the University must fulfill the general requirements for admission as set forth below. The University of California bases its entrance requirements on two principles: first, that the best guarantee of success in the University is high quality of scholarship in previous work, and second, that the study of certain specified subjects will give to the student both good preparation for the work of the University and reasonable freedom of choice of a major field of study after his entrance. These principles apply to admission in either freshman or advanced standing.

ADMISSION PROCEDURE

All communications concerning admission should be addressed to the Office of Admissions on the campus where the applicant plans to attend.

Application for Admission

Formal application must be filed with the Admissions Officer, University of California on the campus at which registration is desired. Application blanks will be supplied by the Office of Admissions upon request. The application should be filed during the semester preceding that for which the applicant wishes to register and must be filed not later than *August 15* for the fall semester or *January 15* for the spring semester. Applicants for the College of Engineering have earlier dates for filing applications; see under "Special Requirements for Engineering," pages 40–41. Admission requirements are uniform on all campuses of the University. Admission to the University entitles the student to attend the campus of his choice if the facilities to meet his needs are available there. Since applications will be processed and acted upon in only one Office of Admissions, *applications for admission to more than one campus serve no purpose and should not be filed.*

Application Fee

Every applicant for admission is required to pay a fee of $5 when the first application is filed. Remittance by bank draft or money order should be sent to the Office of Admissions, but be made payable to The Regents of the University of California.

Transcripts and Records

Official transcripts of records should be sent directly to the Office of Admissions from the graduating high school and from each college attended. Transcripts should be endorsed by the proper authority and final college transcripts should include a statement of good standing or honorable dismissal from the last college attended. A preliminary transcript should show work in progress.

Examination Requirement

All applicants for undergraduate status (except second baccalaureate degree, limited, foreign, and applicants for Engineering at the junior level) must present a satisfactory score on the College Entrance Examination Board

Scholastic Aptitude Test. Arrangements for the test, which must be taken no earlier than the senior year in high school or within the year the applicant applies for transfer, are made with the Educational Testing Service, P. O. Box 27896, Los Angeles 27, California or P. O. Box 592, Princeton, New Jersey. The fee for the Scholastic Aptitude Test is to be paid to the Educational Testing Service. Scores will be regarded as official only if they are received directly from the Educational Testing Service. See also sections on "Admission of Nonresidents" and "Admission by Examination."

APTITUDE TEST DATES FOR 1961–1962

Test Dates	*Application Deadlines*
Wednesday, August 9, 1961	July 12, 1961
Saturday, December 2, 1961	November 4, 1961
Saturday, January 13, 1962	December 16, 1961
Saturday, March 3, 1962	February 3, 1962
Saturday, May 19, 1962	April 21, 1962
Wednesday, August 8, 1962	July 11, 1962

Vaccination Certificate

Every new student (and every student returning to the University after an absence) must present at the time of medical examination by the University Medical Examiners a certificate establishing the fact that he has been successfully vaccinated against smallpox within the last three years. A form for this purpose will be furnished by the Admissions Offices of the University. Vaccination should be completed prior to registration.

ADMISSION IN FRESHMAN STANDING

An applicant who does not meet at the time of high school graduation the requirements given below for admission to freshman standing must qualify for admission with *advanced standing* (see pages 38, 39). The only exception to this regulation is in the case of a student whose subject deficiency was the result of not having studied one or more required high school subjects. It is sometimes possible for such a student to clear the deficiency during the summer, provided approval is secured in advance from the Office of Admissions on the campus where the applicant expects to enroll.

An applicant who has attended a junior college, four-year college, university, extension classes of college level, or any comparable institution since graduating from high school is subject to regulations governing admission in advanced standing (see pages 38, 39). Such college attendance may not be disregarded, whether or not any courses were completed.

Requirements for California Residents

This includes applicants from out-of-state high schools who are bona fide residents of California.

1. COLLEGE ENTRANCE EXAMINATION BOARD SCHOLASTIC APTITUDE TEST (see above).

2. GRADUATION FROM AN ACCREDITED HIGH SCHOOL.

An accredited high school in California is one that has been officially designated by the Board of Regents of the University as a school from which students will be admitted to the University primarily on the basis of the record of subjects completed and scholarship attained. The list of accredited schools is published by the University annually in the month of September. Accreditation by the University refers to the college preparatory function of

the high school and implies no judgment regarding the other educational functions of the school. For information concerning the accrediting of schools, principals may communicate with the University Dean of Educational Relations, University Hall, Berkeley. If the high school from which the applicant graduated is not accredited, the Office of Admissions on the campus on which the student intends to register will, upon request, instruct the student regarding the procedure he should follow.

3. ADMISSION—METHOD I (see "Alternate Methods of Admission" under (4) below)

Subject Requirements

Upon the high school authorities rests the responsibility for determining the scope and content of courses preparatory to admission to the University and for certifying such courses to the University. Students naturally will be guided by their respective high school principals in making their preparation for entrance to the University.

(a) History ..... 1 unit.	This requirement must be satisfied by 1 unit of United States history or 1 unit of United States history and civics.
(b) English ..... 3 units.	These must consist of six semesters of English composition, literature, and oral expression, certified by the high school principal as University preparatory in nature.
(c) Mathematics ..... 2 units.	These must consist of two semesters of algebra and two semesters of plane geometry or an integrated two-year course covering the same material. Advanced algebra and trigonometry may be substituted for algebra, and trigonometry and solid geometry for plane geometry.
(d) Laboratory Science. 1 unit.	This must consist of an advanced (eleventh or twelfth grade) year course in one laboratory science. Both semesters must be in the same subject field. Courses designated chemistry or physics are accepted without special certification. Courses in other subjects, such as biology, physiology, botany, physical science, and zoology, are acceptable on written certification from the high school principal.
(e) Foreign Language. 2 units.	These must be in one language.
(f) Advanced course chosen from one of the following ..... 1 (or 2) units.	1. Mathematics, a total of 1 unit (second-year algebra, ½ or 1 unit; solid geometry, ½ unit; trigonometry, ½ unit or other course for which trigonometry is a prerequisite). 2. Foreign language, either 1 additional unit in the same foreign language offered under (e), or 2 units of a different foreign language.

3. Science, 1 unit of either chemistry or physics in addition to the science offered under (d) above.

Additional elective units to complete the minimum of 15 standard entrance units.

Scholarship Requirements

An average of grade B (3.0 based on a marking system of four passing grades) is required in the (a) to (f) subjects listed above, which are taken in the tenth, eleventh, and twelfth years. Courses taken for subject credit in the ninth year need show passing grades only.

In determining the B average, a grade of A in one course may be used to balance a C in another; only courses used to meet the (a) to (f) subject requirements and completed in the tenth, eleventh, and twelfth years are used in computing the grade average. Grades are considered on a semester basis, except from schools that give only year grades.

Courses in the required list completed after the ninth year in which a grade of D is received may not be counted in satisfaction of a subject requirement; an A grade may not be used to compensate for D, E, or F grades. Courses taken in the tenth, eleventh, and twelfth years in which a grade of C or lower is received may be repeated to raise grades, when approved by the principal of an accredited high school, in an amount not to exceed 2 units of the (a) to (f) pattern. Only the first repetition of a subject will be used to satisfy scholarship requirements, although additional repetitions are allowed for the purpose of satisfying a subject requirement.

4. ALTERNATE METHODS OF ADMISSION (for students who do not qualify under Method I)

METHOD II

Subject—complete in the entire high school program not less than 10 units in college preparatory courses chosen from the fields of English, mathematics, science, foreign language, and social science
and

Scholarship—achieve a scholarship rank in the highest ten per cent of the graduating class.

METHOD III

Subject—complete not less than twelve high school units of grade A or B in the work in the tenth, eleventh, and twelfth grades and have no more than 2 units of subject deficiencies in the (a) to (f) subjects. The 2 units of subject shortage must be the result of *omission* only. Courses such as physical education, study period, work experience, military science, R.O.T.C., and religion are not to be counted under this method
and

Scholarship—in the subjects completed in the tenth, eleventh, and twelfth years and applied on the (a) to (f) requirements have an average grade of B and no grades lower than C.

METHOD IV

Subject—complete in the eleventh and twelfth grades not less than 6 high school units of A or B grade selected from the following academic subjects:

Third- and fourth-year English
Third- and fourth-year mathematics
Third- and fourth-year laboratory science

Third- and fourth-year foreign language
Third- and fourth-year history or social science (not more than one unit of social science other than United States history or civics may be used)
and

Scholarship—in the subjects completed in the tenth, eleventh, and twelfth years and applied on the (a) to (f) pattern, earn no grade lower than C, and maintain a scholarship average of not more than ½ unit below a B average.

University authorities believe that high school students who follow the regular (a) to (f) pattern of subjects outlined above, together with the additional subjects recommended for particular majors, will be well prepared for work in the University. However, the University does not wish to exclude a student who has followed a program of university preparatory studies recommended to him by his high school and will therefore admit an applicant on a grade B average scholarship in a different program of university preparatory studies provided such a program has been previously filed with, and approved by, the Board of Admissions and Relations with Schools.

5. EXPERIMENTAL PLANS OF ADMISSION

In addition to the foregoing methods, the Board of Admissions and Relations with Schools authorizes from time to time experimental programs to test the validity of suggested procedures. Information concerning these programs may be obtained from the University Dean of Educational Relations, University Hall, Berkeley.

Minor Deficiencies

The Officers of Admissions have authority and responsibility for waiving minor deficiencies when justification is evident in the form of unusual academic records or recommendations.

Requirements for Out-of-State Applicants

1. Graduation from an Accredited High School.
   For schools outside California, regional or other accrediting agencies are consulted. The University makes the final decision regarding acceptability.
2. College Entrance Examination Board Scholastic Aptitude Test.
   An average score of 500 or above in the Aptitude Test—see detailed statement on page 34.
3. Subject Requirements.
   The same subject pattern required of California residents—see Method I (page 35).
4. Scholarship Requirements.
   An applicant must present evidence that he has maintained a grade-point average of 3.4 or higher on the required high school subjects. One unit of A counts four points, one unit of B counts three points, one unit of C counts two points, one unit of D counts one point. E and F yield no points.

The alternate plans of admission given on page 36 are not applicable to out-of-state applicants.

ADMISSION BY EXAMINATION

Applicable only to high school graduates who are ineligible on their school records and who have no college work.

The University of California does not itself offer entrance examinations but accepts on all campuses the results of examinations given by the Educational Testing Service for the College Entrance Examination Board (see

page 34 for information as to dates and places of examinations for 1961–1962).

To qualify by examination, the tests must be taken no earlier than the applicant's senior year in high school and arrangements must be made with the Educational Testing Service at least four weeks prior to the test date. Test results must be forwarded directly from the Educational Testing Service to the Office of Admissions on the campus at which the student expects to register.

Assignment of Examinations

An applicant who has completed all of the (a) to (f) subjects with grades of at least C but is deficient in scholarship may qualify by attaining a score of 500 or above on:

1. The Scholastic Aptitude Test (Verbal and Mathematics scores may be averaged)

and

2. Each of any three achievement tests in subject fields. An applicant may not present examinations in both Intermediate and Advanced Mathematics.

The applicant who has not completed all the (a) to (f) subjects with C grades or better must consult the Office of Admissions on the campus on which he intends to register to determine the examinations he is required to take.

The applicant who has graduated from an unaccredited high school may qualify by examination but must consult with the Office of Admissions regarding the required tests.

PREPARATION FOR UNIVERSITY CURRICULA

In addition to those subjects required for admission to the University, outlined beginning on page 35, certain preparatory subjects are recommended for each University curriculum which, if included in the high school program, will give the student a more adequate background for his chosen field of study. In some cases, lack of a recommended high school course will delay graduation from the University. Details of these recommendations will be found in the circular, PREREQUISITES AND RECOMMENDED SUBJECTS, which may be obtained from the University Dean of Educational Relations, University Hall, Berkeley.

It is recommended that students pursue a full program of academic subjects during their senior year.

A statement of the requirements for the bachelor's degree is contained in the GENERAL CATALOGUE for each campus (Santa Barbara, no charge; Davis, Riverside, 25 cents; Berkeley and Los Angeles, 50 cents) and in the announcement of each school or college of the University. A copy of the desired announcement may be obtained from the Office of the Registrar on the campus on which the school or college is located.

HONORS AT ENTRANCE

All entering freshmen are considered for Honors at Entrance on the basis of their high school records. Honors recognition at the time of admission is given to entering freshman students with outstanding high school scholastic records. Certificates are presented to the Honors recipients shortly after registration in the University.

ADMISSION IN ADVANCED STANDING

Requirements for California Residents

1. An applicant who was eligible for admission in freshman standing or whose only deficiency arose from not having studied one or more required

high school subjects may be admitted at any time if he presents evidence that:

(a) He has satisfied, either through high school or college courses, the subjects required for admission of high school graduates in freshman standing (see page 35).

(b) His advanced work, in institutions of college level, has met the minimum scholarship standard required of transferring students, in no case lower than a C average in the last college attended, and an over-all C average in all college work attempted. "Scholarship standard" is expressed by a system of grade points and grade-point averages in courses acceptable for transfer to the University of California. One unit of A counts four grade points; one unit of B counts three grade points; one unit of C counts two grade points; one unit of D counts one grade point; E and F yield no grade points.

The grade-point average is determined by dividing the total number of grade points by the total number of units undertaken. Courses completed with a grade lower than C may be repeated but the units and grade points count each time the course is taken.

(c) He is entitled to return as a student in good standing to the last college attended.

(d) He has earned a satisfactory score in the College Entrance Examination Board Scholastic Aptitude Test (see page 34).

2. If an applicant for admission to the University in advanced standing was ineligible at the time of high school graduation because of low scholarship or a combination of low scholarship and incomplete subject preparation, he may remove his deficiencies by completing college courses of appropriate content and amount. These courses completed with satisfactory grades may be taken in any approved college.

(a) The applicant must include in his program courses acceptable for removing high school subject shortages caused by omission or by grades of D or lower

and

present a minimum of 30 units of transfer courses with a grade-point average of at least 2.4 and a satisfactory score on the College Entrance Examination Board Scholastic Aptitude Test. Beginning with the fall semester, 1962, the applicant must present a minimum of 56 units to meet this requirement.

or

(b) As an alternative to making up high school subject deficiencies, an applicant may be admitted on the basis of a record showing completion of at least 60 units of transfer courses with a grade-point average of 2.4 or higher in which must be included all of the subjects required for junior standing in a school or college of the University. Applicants qualifying under this regulation will also be required to present a satisfactory score on the College Entrance Examination Board Scholastic Aptitude Test.

Ordinarily, it is recommended that graduates of California high schools who are not eligible for admission to the University attend one of the California junior colleges and complete the lower division requirements of the college in which they wish to register.

Requirements for Out-of-State Applicants

(See also page 41)

In addition to the regular admission requirements described above, out-of-state applicants with advanced standing must meet the following regulations:

1. A grade-point average of 2.8 must be maintained in college subjects acceptable for transfer credit, plus an average score of 500 or above on the College Entrance Examination Board Scholastic Aptitude Test.

2. An advanced standing applicant who presents less than 56 units of acceptable transfer courses must also meet both the subject and scholarship requirements set for applicants from out-of-state high schools listed on page 37.

Credit for Work Taken in Other Colleges

The University grants credit for courses appropriate to the curricula that have been completed in other accredited colleges and universities subject to the restrictions of the senior residence requirement.

As an integral part of the system of public education of California, the University of California accepts at full value approved transfer courses completed with satisfactory grades in the public junior colleges of the State; students who intend to complete their advanced studies at the University will frequently find it to their advantage to complete the first two years of their college course in one of the many excellent California public junior colleges. An applicant may not disregard his college record and apply for admission in freshman standing; he is subject without exception to the regulations governing admission in advanced standing. He should ask the registrars of all high schools and colleges he has attended to forward complete official transcripts directly to the Office of Admissions where he has filed his application. Transcripts not sent directly by the issuing school to the Office of Admissions will be considered unofficial. A statement of good standing from the last college attended must also be sent.

No applicant may receive transfer credit in excess of an average of 18 units per semester. After a student has earned 70 units acceptable toward a degree (except credit allowed on the basis of military service and training), no further unit credit will be granted for courses completed at a junior college.

Extension courses taken at some institution other than the University of California may not be acceptable. The decision as to their acceptability rests with the Office of Admissions. If such a program is planned with the intention of applying it toward a degree at the University of California, it is wise to have the approval of the Office of Admissions in advance.

Removal of Scholarship Deficiencies by Applicants from Other Colleges

Applicants otherwise eligible who seek to transfer from other institutions of collegiate rank but whose college records fail to show a satisfactory scholarship average may be admitted only when the deficiency has been removed by additional work completed with grades sufficiently high to offset the shortage of grade points. This may be accomplished by work in other approved higher institutions, in Summer Sessions, or by courses in University Extension.

SPECIAL REQUIREMENTS FOR ENGINEERING

An engineering qualifying examination must be taken by all applicants for admission to the Colleges of Engineering at both the lower division and upper division levels, and to the Pre-engineering Program at Santa Barbara (admitting freshmen only, 1961–1962). The examination is to be taken the semester previous to that in which the applicant desires to register. No other test results may be substituted for those of the appropriate engineering qualifying examination. The formal application for admission to the University as well as the application to take the test must be filed before the date scheduled for the examination. Students not taking the test on the date scheduled will not be considered for admission to the Colleges of Engineering in the semester immediately following. Applicants must also satisfy the general requirements for admission to the University (see pages 33–34).

Applicants for admission to the lower division of the Colleges of Engineer-

ing and the Pre-engineering Program at Santa Barbara must present satisfactory scores on both the Engineering Examination—Lower Division, and the Scholastic Aptitude Test of the College Entrance Examination Board. No fee will be charged for the Engineering test where applicants are required to take both it and the Scholastic Aptitude Test. Applicants for admission to the College of Engineering at or above the junior level must submit satisfactory scores on the Engineering Examination—Upper Division. The Scholastic Aptitude Test will be waived for these upper division Engineering applicants. Identical examination programs are required for admission to the Colleges of Engineering, Berkeley, Davis, or Los Angeles and the Pre-engineering Program at Santa Barbara.

The Engineering Examination—Lower Division is primarily an aptitude test, but presumes that the student has had the required subjects in high school, particularly those in mathematics through trigonometry, physics or chemistry, mechanical drawing, and English. The test is designed to demonstrate the applicant's general scholastic ability and his ability to comprehend scientific materials and principles, to use mathematical concepts, and to judge spatial relationships. No preparation beyond successful completion of the high school courses is required.

Preparation for Admission in Freshman Standing.—It is important for high school students who plan to study engineering at the University to include the following subjects in their high school programs:

*Algebra ..... 2 units	Chemistry or physics
*Plane Geometry ..... 1 unit	(both are desirable) ..... 1 unit
*Trigonometry ..... ½ unit	Mechanical drawing ..... 1 unit

LIMITATION OF ENROLLMENT OF OUT-OF-STATE APPLICANTS

It has been necessary to place some limitation on enrollment of applicants who are not residents of California and only those of exceptional promise will be eligible for admission. Children of alumni of the University of California are not subject to the special nonresident requirements for admission nor are applicants who at the time of application have become bona fide residents of California. The regulations below are designed to admit approximately the upper half of candidates eligible for admission under regular rules as measured by scholastic record and aptitude tests.

Admission to Freshman Standing

An applicant must present evidence that he has maintained a grade-point average of 3.4 or higher on the required high school subjects and an average score of 500 or above on the College Entrance Examination Board Scholastic Aptitude Test (see "Admission in Freshman Standing for Out-of-State Students," page 37).

Admission with Advanced Standing

An applicant must present a grade-point average of 2.8 in college subjects acceptable for transfer credit plus an average score of 500 or above on the College Entrance Examination Board Scholastic Aptitude Test (see "Special Requirements for Out-of-State Applicants" under "Admission with Advanced Standing," page 39).

INTERCAMPUS TRANSFER

An undergraduate student, who has attended a regular session of the University of California and has not since that time been registered in a regular session in another institution, may apply for transfer to another campus of

* Or equivalent integrated courses covering the same subject material.

the University by obtaining the proper forms from the campus on which he was last registered. The Intercampus Transfer Application forms and Application for Transcript of Record forms may be obtained from the Office of the Registrar and must be filed with that office by January 15 for the spring semester and August 15 for the fall semester.

ADMISSION OF SPECIAL STUDENTS

Special students are students of mature years who have not had the opportunity to complete a satisfactory high school program or who have not completed a substantial amount of college work, and who, by reason of special attainments, may be prepared to undertake certain courses in the University toward a definite and limited objective. Only cases of very unusual merit will be considered.

The conditions for the admission of each applicant under this classification are assigned by the Admissions Officers, and are subject to the approval of the dean of the college. Ordinarily, a personal interview is required before final action can be taken, and, in general, special students are required to confine their attention to some special study and its related branches. Admission as a special student is for a limited time only, as fixed by the Admissions Officer, and is subject at all times to satisfactory scholastic achievement.

No person under 21 years of age will be admitted as a special student, but mere attainment of any given age is not in itself a qualification for admission. An applicant will not be admitted directly from high school to the status of special student. Graduates of high schools are expected to qualify for admission in accordance with the usual rules; students admitted to regular status, if not candidates for degrees, may, with the approval of the dean of the students' college, pursue elective or limited programs.

Transcripts of record from all schools attended beyond the eighth grade must ordinarily be submitted by an applicant for special status. He may also be required to take the examination in Subject A.

The University has no "special courses." All courses are organized for regular students. A special student may be admitted to those regular courses for which, in the judgment of the instructor, he has satisfactory preparation. A special student will seldom be able to undertake the work of the engineering and professional colleges or schools.

A special student may at any time attain the status of regular student by satisfying all the matriculation requirements for admission to the University, but *an applicant will not be admitted to special status for the purpose of making up requirements.*

ADMISSION TO LIMITED STATUS

Students admitted to limited status are those with a bachelor's degree but ineligible for admission to graduate standing, or those without a bachelor's degree who have completed a substantial amount of college work in the University of California or in another institution of approved standing with a satisfactory scholarship average and who, by reason of special attainments, may be prepared to undertake certain courses in the University toward a definite and limited objective. Students admitted to this category are normally restricted to undergraduate courses.

The conditions for the undergraduate admission of each applicant under this classification are assigned by the Admissions Officers and are subject to the approval of the dean of the professional school to which he seeks eventual admission or by the dean of the college or school in which the applicant desires to satisfy a definite need or interest.

Transcripts of record from all schools attended beyond the eighth grade must ordinarily be submitted by an applicant for limited status. He may also be required to take the examination in Subject A.

The applicant will not be admitted to limited status for the sole purpose of raising a low scholarship average. Limited students for whom no grades have been specified are subject to the minimum scholarship requirements of the college or school in which they are enrolled. Any deviation from the program as planned, or any scholarship deficiency incurred while pursuing it, will result in the cancellation of a student's limited status and will render him subject to dismissal from the University.

ADMISSION OF APPLICANTS WITH BACHELOR'S DEGREES

Ordinarily, an applicant with a bachelor's degree substantially equivalent to the bachelor's degree granted by the University of California should apply for admission to graduate status. Occasionally, such an applicant with a superior record may qualify as a limited student or, as a result of complete change of objective, as an undergraduate seeking a second baccalaureate. In either case, the previous scholarship record must be such as to indicate very strong probability of academic success. Admission is also subject to the approval of the dean of the school or college in which the applicant plans to enroll.

ADMISSION FROM SCHOOLS AND COLLEGES IN FOREIGN COUNTRIES

The credentials of an applicant for admission from a foreign country, either in undergraduate or graduate standing, are evaluated in accordance with the general regulations governing admission. An application, official certificates and detailed transcripts of record should be submitted to the Admissions Officers several months in advance of the opening of the semester in which the applicant hopes to gain admittance. This will allow time for exchange of necessary correspondence relative to entrance and, if the applicant is admitted, will assist him in obtaining the necessary passport visa.

An applicant from a foreign country whose education has been conducted in a language other than English may be admitted only after demonstrating that his command of English is sufficient to permit him to profit by instruction in this University. An applicant's knowledge of English is tested by an oral and written examination given by the University of Califorina. This regulation applies to both graduate and undergraduate foreign students. Admission of an applicant who fails to pass this examination will be deferred until he has acquired the necessary proficiency in the use of English.

Language Credit for a Foreign Student.—College credit for the mother tongue of a foreigner and for its literature is given only for courses taken in native institutions of college level, or for upper division or graduate courses actually taken in the University of California, or in another English-speaking institution of approved standing.

College of Engineering.—An applicant for admission to the College of Engineering who is outside the United States must pass with satisfactory scores the Scholastic Aptitude Test (verbal and mathematics sections) and achievement examinations in English composition, physics, and advanced mathematics of the College Entrance Examination Board before a letter of admission to the College of Engineering may be issued. Arrangements to take the tests in another country may be made directly with the College Entrance Examination Board, P.O. Box 592, Princeton, New Jersey. A fee of $16 is charged for these examinations and should be forwarded to the College Entrance Examination Board, not to the University of California. An applicant should request that his scores in the tests be forwarded to the Office of Admissions.

Foreign Student Adviser.—Advisers are appointed to assist foreign students in all matters pertaining to their attendance at the University. Every student from another country is urged, upon his arrival at the University, to consult the Foreign Student Adviser in the Dean of Students' office.

SUBJECT A: ENGLISH COMPOSITION

The University requires that every accepted student pass an examination in English composition (the Subject A examination), or complete in college an acceptable course in English composition with a satisfactory grade. Students who enter the University with credentials showing the completion elsewhere of acceptable college level training in composition or with a satisfactory score in the College Entrance Examination Board Achievement Test in English Composition are considered to have met the Subject A requirement. To secure exemption, the College Board English Achievement Test must be taken not earlier than the senior year in high school. An examination by this University is required of all other students and, while not a condition of admission, must be taken at the opening of the semester of first attendance, if not taken previously.

ADMISSION TO GRADUATE STANDING

(See pages 68–72)

GENERAL REGULATIONS

REGISTRATION PROCEDURE

EACH STUDENT must register at the University of California, Santa Barbara, at the time appointed for that purpose, at the beginning of each semester. Registration procedure includes: payment of fees; the completion of registration forms; enrollment in courses; clearance with certain offices as indicated in registration and enrollment instructions; and presentation of the completed packet to the Registrar.

LATE REGISTRATION

Failure to register within the prescribed time limit (see pages 4–7) is certain to cause difficulty in the making of a satisfactory program and to retard the progress both of the student himself and of each class to which he may be admitted. *After the first two weeks of instruction,* registration will be permitted only under unusual circumstances.

A fee of $10 is charged for late registration; this fee applies to all students, continuing, returning and new.

READMISSION AFTER ABSENCE

All former students who wish to reenter the University of California, Santa Barbara, must file an application for readmission with the Registrar. Official transcripts of all work attempted in the interim must be submitted. Evidence of successful immunization against smallpox may be required. Final dates for filing for readmission are listed on pages 4 and 6.

EXAMINATIONS AT ENTRANCE

Medical and Physical Examination. All new students must appear before the University physician and pass a medical examination to the end that the health of the University community, as well as that of the individual student, may be safeguarded. Every new student entering the University will receive with his application papers a form for certification of a sucessful smallpox vaccination within the last three years. This completed form must be returned to the Student Health Service by August 15 for the fall semester, and by January 15 for the spring semester. The student may be saved considerable time and inconvenience if he will *bring with him at the time of examination:* (1) his eyeglasses, if any; (2) valid written evidence that he has had within the past twelve months either a negative tuberculin skin test or a chest X-ray negative for active tuberculosis; (3) past record of tetanus shots. Applicants for admission who have contagious diseases or who are subject to serious mental or physical disturbances cannot be accepted. In order to prevent loss of time from studies, every student is urged to have his own physician examine him for fitness to carry on college work before coming to the Santa Barbara campus. All defects capable of remedial treatment, such as diseased tonsils or imperfect eyesight, should be corrected.

For regulations regarding physical examinations of candidates for teaching credentials, see page 111.

Subject A: English Composition. With the exceptions noted below, every undergraduate entrant must, at the time of his first registration in the University, take an examination known as the *Examination in Subject A,* designed to test his ability to write English without gross errors in spelling, grammar, sentence structure, and punctuation.

The examination in Subject A is given at the opening of the fall semester, the spring semester, and the summer session. A second examination for late

entrants is given not later than two weeks after the first examination in each semester; for this late examination a fee of $1 is charged.

Papers submitted in the examination are rated either "passed" or "failed." No student may have the privilege of reëxamination in Subject A.

A student who has received a satisfactory rating in the examination in English Composition administered by the Educational Testing Service for the College Entrance Examination Board (see pages 37, 38, under *Admission by Examination*) will receive credit for Subject A. A student who has passed an examination in Subject A given by the University or given under the jurisdiction of the University at various centers in the State annually in May or June will receive credit for Subject A.

A student who enters the University of California at Santa Barbara with credentials showing the completion elsewhere, with a grade not lower than C, of one or more approved college courses in English Composition (totaling at least 3 semester units, or the equivalent, of transferable college credit) is exempt from the requirement in Subject A.

Every student who does not pass the examination in Subject A must immediately enroll for one semester in the *Course in Subject A*, without unit credit toward graduation. Should any student fail in the course in Subject A, he will be required to repeat it in the next succeeding semester of his residence at Santa Barbara.

Every student who is required to take the course in Subject A is charged a fee of $35. The charge will be repeated each time he takes the course. This fee must be paid before the study list is filed.

No student will be granted the bachelor's degree until he has satisfied the Subject A requirement.

Students who fail in the examination in Subject A and who maintain a grade of A in the Course in Subject A, shall on recommendation of the Committee on Subject A be permitted to discontinue attendance in the course at a date to be determined by that committee and be given credit for Subject A.

Psychological Examination. Every new student is required to take a psychological examination at entrance at the time scheduled on the Calendar. The tests are administered during the week of registration. (See pages 4 and 6.)

Music Placement Examination. All new music majors, whether freshmen or transfers from other institutions, are required to take a placement test in music theory and performance. These tests determine which courses in these fields shall be elected by the new music major.

TRANSCRIPT OF RECORD

Any student may obtain from the Registrar one photostatic transcript of his college record without charge. A charge of $1 is made for each additional transcript.

Students who plan to seek employment following graduation, and especially those who intend to teach, should procure several transcripts of their records as evidence of attendance at Santa Barbara.

Application for a transcript of record should be made directly to the Registrar well in advance of the time when the record will be needed by the applicant.

STUDENTS' PETITIONS

Students must obtain forms for petitions from the Office of the Registrar. Completed forms should be returned to this office.

GRADES OF SCHOLARSHIP; GRADE POINTS

In the University, the result of the student's work in each course (graduate and undergraduate, including courses in which credit is sought by examination) is reported to the Registrar in one of six scholarship grades, four of

which are passing, as follows: A, excellent; B, good; C, fair; D, barely passing; E and F, not passing. Grades are not otherwise defined, as for example, by percentages, or by a rule stipulating the manner in which the several grades shall be distributed.

Grade E (not passed) indicates a record below passing, but one which may be raised to a passing grade without repetition of the course by passing a further examination or by performing other tasks required by the instructor. Grade F (not passed) denotes a record so poor that it may be raised to a passing grade only by repeating the course.

The term "incomplete" is not used in reporting the work of students. The instructor is required to assign, for every student, a definite grade based upon the work actually accomplished, irrespective of the circumstances which may have contributed to the results achieved.

Course reports filed by instructors at the end of each semester are final, not provisional.

Grade points are assigned to the respective scholarship grades as follows: for each unit of credit, the scholarship grade A is assigned 4 points; B, 3 points; C, 2 points; D, 1 point; E and F, no points. In order to qualify for the bachelor's degree, a student must have obtained at least twice as many grade points as there are units in the total credit value of all courses undertaken by him in the University of California.

At the end of the spring semester and summer session a student may obtain his course grades by depositing with the Registrar a self-addressed, stamped envelope.

Withdrawal from a Course. All withdrawals from a course after filing study list must be made by petition. The student is responsible for preparing and presenting his petition for any change of program. A grade of F will be given for unauthorized withdrawals from courses. *If a student's withdrawal from a course leaves him with a program of fewer than 12 units, the Dean of the College of Letters and Science must approve his program for the following semester.*

Addition of Courses. No student may add a course to his program after the end of the third week of instruction.

OTHER PROVISIONS CONCERNING SCHOLARSHIP

Mid-semester Warning. Warning notices are sent at mid-semester to students who have received an average of D or F in any course. A student who at the middle of any semester has received these unsatisfactory grades in two or more subjects shall be interviewed by the Dean of Men or the Dean of Women.

Failures and Repetition of Courses. A student who fails in the first semester of a course may not continue for the second semester of that course until the failure is removed, except upon special permission of the instructor.

REMOVAL OF DEFICIENCIES

A student who receives a grade lower than C in a lower division course may repeat the course. The units will count only once toward the degree; however, he will be charged with the units undertaken on each attempt. Upon repetition of the course, the student will receive the grade assigned by the instructor and grade points appropriate to that grade. The foregoing privilege does not apply to grades received in upper division or graduate courses. A student who receives grade E or F in an upper division or graduate course may repeat the course. The units will count only once toward the degree; however, he will be charged with the units undertaken on each attempt. Upon repetition, the student will receive the grade assigned by the instructor but for the repetition cannot receive more than two grade points per unit. (For exceptions, see below.)

Special provision is made for students whose university work has been interrupted by one year or more of service with the armed forces of the United States and who, prior to such service, had undertaken one or more courses forming part of an announced sequence of courses. Such a student may, with the approval of the Dean of the College of Letters and Science (or, in the case of graduate students, with the approval of the Vice-Chancellor for Graduate Affairs), be permitted to repeat any course previously undertaken in the sequence, irrespective of the grade previously assigned, and to receive the new grade assigned by the instructor and grade points appropriate thereto; provided, however, that for a course so repeated, the student may receive unit credit toward graduation, or toward the satisfaction of major requirements, only in an amount not to exceed the difference between the full unit value of the course and the number of units, if any, which he has previously received from the same course.

For the purpose of raising grade E to a passing grade, an undergraduate student may, with the consent of the instructor concerned and of the Dean of the College of Letters and Science, have the privilege of a "condition examination." For graduate students this privilege can be granted only by the Vice-Chancellor for Graduate Affairs. In courses of the summer sessions no "condition examinations" may be given except upon the approval of the Director of Summer Sessions.

Any examination, term paper, or other exercise which the instructor may require of the student in order to raise grade E to a passing grade in a course is a "condition examination." For every such examination, a formal permit, to be obtained in advance from the Registrar, must be shown to the instructor in charge of the examination; otherwise, he will lack authority to consider and report upon the work submitted by the student. The fee for a permit is $4, regardless of the number of courses entered thereon. A form of petition for a special examination or for admission to an examination with a class, with instructions concerning procedure, may be obtained from the Registrar. Grade E in a course in which a final examination is regularly held can be raised to a passing grade only by passing a satisfactory final examination in the course.

If a student who has received grade E in any course fails to raise it to a passing grade by the end of the next semester of his residence in which the course is regularly given, then the grade shall be changed to F. If in the meantime, however, the student has repeated the course and has again received grade E, his grade in the course will remain grade E, as it would be if he were taking the course for the first time. A student who fails to attain grade D or a higher grade in any course following a reexamination for the purpose of raising grade E to a passing grade, will be recorded as having received grade F in the course.

A student who raises a grade E or F, incurred in an upper division or graduate course, to a passing grade by *successful repetition* of the course will receive the grade assigned by the instructor but ordinarily can not receive more than two grade points per unit. A student who raises a grade E, incurred in any course, lower division, upper division, or graduate, to a passing grade by *examination* or by performing other tasks required by the instructor (short of actual repetition of the course), shall ordinarily receive no grade points. Exceptions to these rules are granted by petition and only under special circumstances. The petition must be endorsed by the instructor concerned, and must be submitted for final approval to the Dean of the College of Letters and Science (or to the Vice-Chancellor for Graduate Affairs, in the case of graduate students).

Courses failed at this University and successfully repeated elsewhere are admissible for credit if the work was undertaken at a collegiate institution whose credits are acceptable for transfer at Santa Barbara. However, such

repetition does not remove the failure grade from the University of California, Santa Barbara, record.

MINIMUM SCHOLARSHIP REQUIREMENTS

The following provisions apply to all undergraduate students at Santa Barbara:

Probation. A student will be placed on probation if at the close of any semester his grade-point average is less than 2.0 (C average), computed on the total of all courses undertaken in this University for which he has received a final report.

Dismissal

A student shall be subject to dismissal from the University:

1. If during any semester he fails to obtain at least one and one-half times as many grade points as the total number of units in his program; *or*
2. If while on probation his grade-point average for the work undertaken during any semester falls below 2.0 (C average); *or*
3. If after two consecutive semesters on probation he has not attained a grade-point average of 2.0 (C average), computed on the total of all courses undertaken in this University for which he has received a final report.

A student who becomes subject to the provisions of these regulations on probation and dismissal shall be under such supervision as the Faculty of his school or college may determine. Consonant with these regulations, the Faculty, or persons designated by it, is authorized to dismiss from the University students under its supervision, or to specify the conditions under which such dismissal may be suspended, or permission granted for the return to the University of students who have been dismissed under these regulations.

LEAVES OF ABSENCE

Leaves of Absence from Classes, Examinations, and Final Examinations. A brief leave of absence from classes, or examinations, for a specified period of time may be issued by the personnel deans to a student who finds it necessary to be absent, or who has incurred such absence, *for reasons beyond his control.* No excuse for absence will relieve the student from the necessity of completing all the work of each course to the satisfaction of the instructor in charge. Forms may be obtained from the personnel deans.

Authorization for off-schedule final examinations will be granted only upon approval of a petition which is obtainable in the Registrar's Office.

COMPLETE WITHDRAWAL—HONORABLE DISMISSAL

An Official Withdrawal may, upon petition, be granted to any student provided he complies with the instructions on the appropriate petition form which is obtainable in the Office of the Registrar.

Discontinuance without Notice. A student who discontinues his work during a semester without formal withdrawal may have his registration privileges curtailed or entirely withdrawn. In order to withdraw from the University at any time during the semester without penalty, a student is required to submit a petition for honorable dismissal. Otherwise, the student will receive grade F in all courses in which he is enrolled for that semester.

STUDENTS' PROGRAMS

Average and Minimum Programs. An average program is 15 units of work per semester; however, a student who is physically impaired or not in good health may be required to carry a reduced program. *A male student expecting deferment from military service should plan a program of at least 15 units of work each semester.*

Twelve units of work constitute a minimum program (except for special students and those who are engaged in directed teaching) and is the lowest limit permitted for those participating in student and intercollegiate activities.

Maximum Programs. Freshman students in regular status are limited to first-semester programs of not more than 16 units. In special circumstances, however, the advisers of students may allow first-semester freshmen to carry a 17-unit program. After the first semester, regular students are allowed to carry a maximum program of 17½ units. Regular students who have earned a 3.0 average (B average) for each of the previous two semesters may carry a maximum program of 18½ units without petition.

Students who are classified as probational or special are allowed to carry a maximum program of 13½ units. The recommended study-list program for students who are physically handicapped or are employed part time is 13½ units. With the exceptions noted above, permission to carry a program of more than the maximum, or fewer than the minimum, usually allowed for the student's official classification must be obtained by petition to the academic dean. The petition must be signed by the departmental adviser and the appropriate personnel dean. Petitions of this type should be filed on or before Friday of the third week of instruction.

Extension Courses. A student regularly enrolled in the University may receive credit toward graduation for courses taken concurrently in University Extension (including correspondence courses) only if (1) each such course is approved as part of the student's program by the officials who supervise his study list, and (2) the entire approved study list is filed with the Registrar's Office *before the work is undertaken.* Petition forms for seniors requesting authorization for such extension and correspondence courses may be obtained at the Registrar's Information Window.

Program Changes. After a student has filed his packet with the Registrar, changes may be made only upon petition. The approval of the academic dean is necessary for students with excess or deficit programs, and for students with fewer than 30 units.

CHANGE OF MAJOR

A student who desires to change his major may do so only upon the basis of an approved petition. The Office of the Registrar will then re-evaluate the student's credits in terms of the new major.

It should be emphasized that a student's graduation may be considerably delayed if he changes his major after having completed a substantial portion of it.

Except in the case of closely related majors, no student is permitted to change his major after the opening of the final semester of his senior year.

CREDIT BY EXAMINATION

Credit by examination is given under certain prescribed conditions. The rules governing such examinations may be obtained from the Registrar.

FINAL EXAMINATIONS

Final examinations are required in all courses. So far as practicable, all examinations will be conducted in writing, and a maximum time will be assigned

beforehand for each examination, which no student will be allowed to exceed. The time for examination sessions will not exceed three hours. Students should note that instructors are not authorized to change the dates of final examinations. This does not apply to petitions granted in accordance with the procedure laid down above under *Leave of absence from examinations.* There can be no individual exemption from a final examination except by approval upon petition. Department deviations from this rule are permitted in the case of Comprehensive Examinations. See the following paragraph.

Comprehensive Examinations. Any department may examine a student, at the end of the semester immediately preceding his graduation, in the major subject in which the department has given instruction; and a student so examined, may, at the discretion of the department, be excused from all final examinations in courses in the department of the major subject in which he has been enrolled during the semester. Credit value may be assigned to this general examination in the major subject.

STUDENT CONDUCT

When a student enters the University, it is assumed by the University authorities that he has an earnest purpose and that his conduct will bear out this presumption. If, however, he should be guilty of behavior in the University or community which is prejudicial to the University or should neglect his academic duties, campus authorities will take such action as they deem appropriate. Students who fail to make proper use of the opportunities freely given to them by the University must expect to have their privileges curtailed or withdrawn.

The Standards Committee of the Associated Students is concerned with means of promoting conduct appropriate to self-governing, responsible students and is empowered to recommend procedures and policies conducive to attaining this end. It welcomes participation by students. Most living groups have their own judicial committee which enacts certain penalties against members for infractions of residence regulations. The faculty as individuals, the Faculty Committee on Student Conduct, and the Personnel Deans are responsible to the Chancellor and to the President of the University for administering penalties in instances when students disregard University regulations or civil laws.

Degrees of Discipline. There are seven degrees of discipline: warning, censure, informal probation, official censure, suspension, dismissal, and expulsion. Official censure involves suspension from extracurricular activities for a specific period of time. Suspension is expulsion from the University for a definite period. Dismissal is exclusion for an indefinite period, with the presumption that the student's connection with the University will be terminated. Expulsion is the most severe academic penalty, and is final exclusion of the student from the University.

The University considers the effect of these measures upon the personal welfare and education of the individual students involved, as well as upon the welfare of the student body as a whole.

STUDENT RESPONSIBILITY

Each student is responsible for compliance with the regulations printed in this catalogue and in the SCHEDULE OF CLASSES AND DIRECTORY, with official notices published in the campus student newspaper, *El Gaucho,* with the notices posted on official bulletin boards, and with all regulations of the University and of the Associated Students.

Each student is required to have a 2″ × 3″ photograph or picture of identification on file with the Office of Dean of Students at the beginning of his first semester in college. Also before registration is considered complete, each

student must fill out a cumulative record folder during registration week.

Notice of change of name and/or address must be reported to the Registrar's Office immediately after change.

Every student is required to satisfy the instructor in each of his courses that he is performing his work in a systematic manner.

A student may not receive grades, transcripts of records, teaching credentials, or diplomas until all of his University obligations have been met. He may not register at the beginning of any semester until past obligations have been cleared or officially extended by the Chancellor or one of the personnel deans.

Failure to keep appointments with administrators or University faculty members, whether made through notices in mail boxes, in the student newspaper, or on bulletin boards, will be regarded as a breach of student responsibility, and will subject the student to disciplinary action.

Students wishing to withdraw from a course or from the University should see page 49 for proper procedures.

It is the student's responsibility to secure the consent of the instructor whenever he or she enrolls in a course in which this requirement is shown as a prerequisite.

RESPONSIBILITY FOR STUDENT WORK

All material of whatever nature submitted by a student in satisfaction of all or any portion of a course requirement is the property of the University and is not subject to any claim on the part of the student who has submitted it.

Further, it is a condition of attendance for any student in any course that any material which he shall produce independently, and not as a part of any course requirement, must be removed by him from University premises not later than the last day of the semester in which he produced such material; and that if he shall fail to remove it as herein provided, there shall be no obligation on the part of the University to hold or safeguard it and all risks of its destruction, loss, or other disposition shall rest solely upon the student.

AUTHORITY OF INSTRUCTORS

No student will be permitted to enter upon the study of any subject if, in the opinion of the instructor, he lacks the necessary preparation to ensure competent work in the subject.

Any instructor, with the approval of the Committee on Student Conduct and the Chancellor, may exclude from his course a student guilty of unbecoming conduct toward the instructor or another member of the class, or a student who, in his judgment, has neglected the work of the course. A student thus excluded will be recorded as having failed in the course, unless the faculty determines otherwise.

GENERAL INFORMATION

EXPENSES OF STUDENTS

THE QUESTION of expense while attending the University of California, Santa Barbara, is of importance to every student. Certain expenses are common to all students. Other expenditures are optional and vary considerably according to differences in interests. The best help the University authorities can offer the student in planning his budget is to inform him of certain definite expense items, and to acquaint him with others for which he will in all probability have to provide. It is advised that all students plan to meet the expenses of their first semester in the University without seeking employment.

FEES

Application Fee. An applicant who wishes to enter the University must fulfill the general requirements for admission. Application blanks may be obtained from the Office of Admissions, University of California, Santa Barbara, University, California. Every applicant for admission is required to pay a fee of $5 when his first application is filed. Remittance by bank draft or money order should be made payable to The Regents of the University of California.

Incidental Fee. The incidental fee is $60 each semester for both undergraduate and graduate students. This fee, which must be paid at the time of registration, covers certain expenses of students for use of library books, for athletic and gymnasium facilities and equipment, for lockers and washrooms, for registration and graduation, for all laboratory and course fees, and for such consultation, medical advice, and hospital care, or dispensary treatment as can be furnished by the Student Health Service. No part of this fee is remitted to those students who may not desire to make use of all or any of these privileges.

Deficit Program. A student programmed for fewer than 6 units is not required to pay the Associated Students fee. Students who change their programs to less than 6 units may request a refund of their Associated Students fee of $15. This request must be made in the Registrar's office by the end of the second week of classes. The Associated Students membership card must be turned in with this request, and at that time the student relinquishes the privileges of an Associated Students member.

Tuition Fee. The University of California charges a tuition fee to every student who has not been a legal resident of the State of California for a period of one year immediately preceding the opening day of the semester during which he proposes to enroll. Such a student is classified as a nonresident. A student entering at Santa Barbara for the first time should read carefully the rules governing determination of residence, as quoted below, so that he may be prepared, in the event of classification as a nonresident, to pay the required tuition fee. This fee must be paid at the time of registration. *The attention of the prospective student who has not attained the age of 22 years, and whose parents do not live in the State of California, is directed to the fact that presence in the State of California for a period of more than one year immediately preceding the opening day of the semester during which he proposes to attend the University does not, of itself, entitle the student to classification as a resident.* Every alien who has not been lawfully admitted to the United States for permanent residence in accordance with all applicable provisions of the laws of the United States, or whose status, he having been so admitted, has been changed, is classified as a nonresident.

Tuition in the University is free to students who have been legal residents of the State of California for a period of one year immediately preceding the

opening day of the semester during which they propose to attend the University.

Students who are classified as nonresidents and who enroll in 12 or more units are required to pay a tuition fee of $250 per semester. For undergraduate students only with less than 12 units, the tuition fee is prorated at $21 per unit or fraction thereof; the minimum tuition fee is $42. This fee is in addition to the incidental fee.

If the student is in doubt about his residence status, he should communicate with the Attorney in Residence Matters, Room 590 University Hall, University of California, Berkeley 4, California.

The eligibility of a student to register as a resident student may be determined only by the Attorney for the Regents in Residence Matters. Every entering student, and every student returning to the Santa Barbara campus after an absence is required to file a "Statement as to Residence" (See *Schedule of Classes and Directory* for dates.) His status with respect to residence will be determined by the Attorney soon after registration. Returning students are advised that application for reclassification as a resident student should be filed on the same dates as new students. Continuing students who have been classified as nonresidents must be prepared to pay the nonresident tuition before registering unless they have applied for and the Registrar has received written notification of reclassification from the Regents' Attorney in Residence Matters. Application for a change of classification with respect to some preceding semester will not be received under any circumstances.

Special Commutation of the Nonresident Tuition Fee. Exemption from payment of the nonresident fee may be granted to an unmarried minor whose parent is in the active military service of the United States and is stationed in California on the opening day of the semester during which the unmarried minor proposes to attend the University. A student who believes he qualifies under this measure should request further information from the Attorney in Residence Matters.

Parking Fee. A fee of $5 per year has been levied for the parking of cars on campus. A fee of $1 is charged to register a second car by an owner. A long-range parking program is currently under study. As a result of this study, fees may be subject to upward revision in September 1961.

Student Center Fee. A Student Center fee is charged all students registered for 6 units or more. The fee for 1961–1962 will be $5 per semester.

Student Body Membership Fee. The student body membership fee is $15 each semester. This fee must be paid by all regular undergraduate students at the time of registration. Membership privileges include participation in student affairs, a free subscription to the student newspaper, and free admission to many athletic contests and reduced rates to others.

The Associated Students. The Associated Students' membership fee, paid at the time of registration, includes membership in the Associated Students of the University of California, Santa Barbara. This organization elects regular officers and the representatives in a student council. A membership card entitles the holder to the newspaper *El Gaucho*, participation in extracurricular social activities, participation in Associated Women Students, Associated Men Students, and Women's Athletic Association activities, admission to and participation in athletic events, programs including music, drama, dance, forensics, use of the University cabin, and the campus annual, *La Cumbre*. Matters of finance are handled by a graduate business manager of the Associated Students and a finance committee, subject to approval by the legislative council and the Chancellor.

Miscellaneous Fees and Refunds. A schedule of miscellaneous fees and other information on this subject may be obtained from the Cashier, University of California, Santa Barbara.

No claim for remission of fees will be considered unless presented during the fiscal year in which the fee was paid. Receipts are issued for all payments, and these receipts should be retained. Refunds may not be made until the original receipt is surrendered.

All fees are subject to revision by the Regents of the University of California.

RULES GOVERNING RESIDENCE

The term nonresident student is construed to mean any person who has not been a bona fide resident of the State of California for more than one year immediately preceding the opening day of a semester during which he proposes to attend the University. (See pages 53 and 54.)

The residence of each student is determined in accordance with the rules for determining residence prescribed by the provisions of Section 244 of the Government Code of California, and Sections 23055 and 23057 of the Education Code of California, provided, however:

Every alien who has not been lawfully admitted to the United States for permanent residence in accordance with all applicable provisions of the laws of the United States, or whose status, he having been so admitted, has been changed, is classified as a nonresident.

Every person who has been, or shall hereafter be, classified as a nonresident student shall be considered to retain that status until such time as he shall have made application in the form prescribed by the Registrar of the University for reclassification, and shall have been reclassified as a resident student.

Every person who has been classified as a resident student shall, nevertheless, be subject to reclassification as a nonresident student and shall be reclassified as a nonresident student whenever there shall be found to exist circumstances which, if they had existed at the time of his classification as a resident student, would have caused him to be classified as a nonresident student. If any student who has been classified as a resident student should be determined to have been erroneously so classified, he shall be reclassified as a nonresident student, and if the cause of his incorrect classification shall be found to be due to any concealment of facts or untruthful statement made by him at or before the time of his original classification, he shall be required to pay all tuition fees which would have been charged to him except for such erroneous classification, and shall be subject also to such discipline as the President of the University may approve.

HOUSING

Students who do not live in their own homes or with relatives or friends may obtain assistance in locating living accommodations through the Office of Student Housing.

The various types of housing available to students are: campus residence halls, private homes where paying guests are accepted, sororities or fraternities, apartments, and duplexes.

Residence Halls

There are accommodations for 1,735 single students in residence halls on the campus. Las Casitas, Santa Cruz and Santa Rosa Halls are for women and Anacapa and Las Casitas Halls are for men. All resident students eat in de la Guerra or Ortega Dining Commons located near the residence halls. The price per semester for room and board (20 meals per week) is $375 for Las Casitas Halls and $390 for Anacapa, Santa Cruz, and Santa Rosa Halls. These rates are subject to change. The majority of the rooms accommodate two students with a few single and triple rooms available. Rooms are furnished with single beds, pillows, linens, dressers, chairs, bookcases, and desks. Blankets, bedspreads, and study lamps are supplied by the students.

The University launders the bed linens and towels without charge to the student. The residence halls are closed during the Thanksgiving, Christmas, and spring recesses and between semesters. Group life in the residence halls provides an opportunity for democratic living and is designed to contribute to the educational experiences of the student. Special efforts are made to provide leadership experiences for the residents.

Accommodations with Private Householders

There are private homes, apartments and duplexes in the neighboring area for students who do not live on the campus. The types of housing available are:

1. Room and board (13 meals per week): $350–$400 per person each semester.
2. Rooms with or without cooking privileges: $130–$180 per person each semester.
3. Exchange: Rooms in private homes where students work approximately 15 hours per week in exchange for room and board.
4. Apartments: $150–$225 per person each semester. Upper division women are eligible to live in apartments but must obtain approval from the Housing Office and parents for this type of housing. Upper and lower division men are permitted to live in apartments.

Sororities and Fraternities

The eight sororities and seven fraternities own or lease homes near the campus and provide lodging and meals for their members (see section on student activities).

General Information

There are listings of off-campus housing available to any student who desires to call in person at the Housing Office. It is recommended that arrangements be made by the student directly with the householder rather than by mail. There should be a clear understanding by both parties, preferably in writing, as to rental prices, intended length of stay, charges to be made during vacation periods, etc. When an accommodation is engaged, it is expected that the student will remain the entire semester. The off-campus houses are located in Santa Barbara, ten miles from the campus; in Goleta, two miles from the campus; and in Isla Vista, adjacent to the west edge of the campus. Public buses run on a regular schedule from Santa Barbara to the campus and the fare is 25 cents each way.

There are no accommodations on the campus for married couples; however, housing for them is available in Santa Barbara, Goleta, and Isla Vista. The Housing Office maintains a bulletin board with current rentals (apartments, duplexes, or houses) for couples and families.

Advice and more information about living accommodations may be obtained by writing to the Office of Student Housing, Building 402, Room 215. Applications for housing should be made at an early date as accommodations in the residence halls are limited; it must be understood that the filing of an application for residence does not guarantee a room reservation.

SCHOLARSHIPS

The University has a number of scholarships and fellowships available to entering students, graduate and undergraduate, as well as to those already in attendance. The rating of candidates for scholarships is based on excellence in high school or college scholarship, financial need, character, and promise. Entering scholarship applicants must take the Scholastic Aptitude Test of the College Entrance Examination Board. Candidates for graduate scholarships

or fellowships should take the Graduate Record Examination and the Miller Analogies Test. The results of the above tests should be sent directly to the Committee on Honors and Scholarships. The following University scholarships are offered:

Pease Barker Memorial Fund
California State Fireman's Association (Ladies' Auxiliary)
John and Ina Therese Campbell
Caroline B. Clow
Mr. and Mrs. Fred E. Cole
Congress of Parents and Teachers
Edgerton, Germeshausen and Grier, Inc., Scholarship in Physics (Consult Physics Department)
John S. Edwards
Faculty Women's Club
Elsie Farrell (Consult Biological Science Department)
John Randolph and Dora Haynes Foundation
Interfraternity Council
Isaac and Clara Jacobs
Kiwanees
Hazel S. Lagersen
Walter E. Loewy
Frank McArthur
Eugene and Harriet Meyer
LaVerne Noyes
Hilda L. Oppenheimer
Bryce Patten Memorial Alumni Scholarship
Milton Phillips
Isabelle Price Memorial
*Regents' Scholarships
Resident Housing Association
Mabel W. Richards
Richard Ruth Scholarship Fund (Consult Music Department)
James C. Russell Memorial Scholarship
Soroptomist Club (Mildred Wright Memorial)
Standard Oil of California
Thomas More Storke Foundation
William W. Stout Memorial
Douwe Stuurman

Applications with transcripts of high school record through first semester of senior year should be filed not later than March 1 of each year with the Committee on Honors and Scholarships, University of California, Santa Barbara, University, California. Continuing students must file applications not later than February 1 of each year. Selection of beneficiaries of the scholarships is made by the Committee on Honors and Scholarships after careful consideration of each candidate's record.

PRIZES

Competitive and noncompetitive prizes are awarded to students each year in several different fields of interest including poetry, science, education, biological sciences, industrial arts, military science, music, journalism, and others. Prizes are also awarded for academic standing, dramatics, and athletics. Individuals and organizations have provided these awards to encourage excellence of achievement. A complete list of available prizes, together with the regulation governing each competition, may be obtained from the Registrar.

GRANTS-IN-AID

Grants-in-aid have been donated by the Santa Barbara County Society for Crippled Children and Adults. These funds are for the study of, and work with, cerebral palsied children, and they have been allotted to a number of students professionally interested in the field of speech correction.

LOANS

The federal government, various organizations, and individuals have contributed toward the creation of several student loan funds. The gifts for this purpose are administered by the University in accordance with the conditions

* A few scholarships are available to students who have not established residence in California.

laid down by the donors and the administrative regulations of the Board of Regents. Unless otherwise specified, loans are made without interest while the student is in the University. Students in good standing who are facing emergencies should apply to the office of the Dean of Students for further information. Loans are available from the following:

California Federation of Women's Clubs Loan Fund
Lawrence E. Chenoweth Memorial Loan Fund
David Gray, Jr., Loan Fund
Willis Edwin Leonard Memorial Loan Fund
Ednah Rich Morse Loan Fund
†Santa Barbara Music Loan Fund
Isabelle Price Loan Fund
Santa Barbara County Federation of Women's Clubs Foreign Students Loan Fund
Santa Barbara Senior Loan Fund
Schurer O. Werner Memorial Loan Fund
Warren E. Schutt Memorial Loan Fund
Pioneer Memorial Student Loan Fund
Laura E. Settle California Retired Teachers Association Fund
Elias Hick and Edward Jones Foreign Students Loan Fund
National Defense Educational Act Loan Fund

STUDENT HEALTH SERVICE

A Student Health Service, staffed by licensed physicians and registered nurses, is maintained by University of California, Santa Barbara. Its purpose is to conserve time for classwork and studies by the prevention and treatment of the majority of injuries and illnesses which students might incur during their enrollment on the Santa Barbara campus. In addition, all required physical examinations are performed at the Health Center, one of which is the physical examination necessary for all students entering for the first time or returning after an absence of one semester or after having discontinued school because of illness.

Each student registering in the fall and continuing through the spring semester, and each student registering in the spring semester may, at need, have such medical care as the Student Health Service is staffed and equipped to provide from the first day of the semester in which the student first registers during the academic year to the last day of the spring semester of the same academic year, or to the date of official withdrawal from the University. Additional service may be provided for seven days after the last day of the semester at the discretion of the Director of the Student Health Service. Any prospective registrant who receives health service and who does not register for the next following semester shall be required to pay toward the cost of the service rendered him up to the amount of the incidental fee.

It is to be emphasized that this service is made possible by the general funds of the University and in part by the staff physicians, and is not a total health insurance plan; therefore, the services are limited by the staff and facilities available.

If a student is hospitalized and it becomes obvious he cannot expect to continue his classes successfully, he will not be discharged to his home or family physician until he can be safely moved.

It is recommended that prospective students have existing physical defects corrected prior to enrollment at Santa Barbara. The Student Health Service will be unable to assume responsibility for treatment of abnormalities present at the time of admission, or for visual or dental defects.

The student should bear in mind the fact that the Health Service may sup-

† Apply to the Department of Music.

plement but does not supplant the family physician. Full and mutual cooperation is encouraged between student, Student Health Service, and the family physician.

STUDENT COUNSELING

The counseling program at Santa Barbara gives attention to the individual needs and capabilities of all students.

Students who contemplate attending the University may receive advice from the deans and department chairmen. After admission the student is assigned an academic adviser by his department chairman. The student must consult his adviser for assistance in all curricular matters and program planning.

The Dean of Students and his staff are available for discussion and advice in regard to general orientation to college life, study techniques, study loads, social problems, housing, employment, loans, scholarships, vocational planning, and adjustment problems. The Foreign Student Adviser is available for special consultation in the Dean's office.

Through the Counseling Center, students are provided professional assistance in educational and vocational planning, and with personal problems that might be a deterrent to the student's progress in the University.

The academic deans are responsible for the general curricula followed by all students. They counsel students in regard to the nature and organization of majors, changes in majors, and the general education programs.

STUDENT EMPLOYMENT

The faculty expects a student to devote the major part of his time to his studies. Although many students plan to earn part or all of their expenses, it is strongly advised that students attempt no outside employment until they have made satisfactory adjustments to the demands of their academic work and of university life. Some students are able to carry an average program and from ten to twenty hours of outside work without jeopardizing scholarship, health, or participation in college activities. *It is recommended that lower classmen plan to work no more than twenty hours a week.* Outside employment should be reduced or discontinued if it interferes with academic work, since the student's first responsibility is to his studies. Applications for part-time work are made through the Educational Placement Service, Building 406, Room 111.

If a student is largely self-supporting or not in good health he must consider at the outset that more than the minimal number of semesters may be necessary to obtain a degree.

A student should not arrange for employment until his academic program is planned for the semester. If his program does not permit regular working hours throughout the semester, the student should seek employment of shorter duration or irregular hours which may be fitted into his program. There are part-time jobs available for women and men; however, it is not always possible at the time of registration to place each student desiring employment.

Men and women students interested in working part time should inform the Office of Part-Time Placement. Placement in part-time employment is arranged by this office. There are opportunities for various types of employment, including work on an exchange basis for board and room.

Any student employed ten or more hours per week should so notify the Office of the Dean of Men or the Office of the Dean of Women.

EDUCATIONAL PLACEMENT SERVICE

To assist students in securing employment, both while in college and upon graduation, the University of California, Santa Barbara, has established an Educational Placement Service which includes an Office of Teacher Placement and an Office of Industrial Placement.

The Office of Teacher Placement is maintained for the mutual service of school officials and the University's credentialed graduates.

An individual folder for each student is prepared and maintained permanently in the Office of Teacher Placement, either in the active or inactive file, depending upon the status of the registrant. The same interest is maintained in former students as in those who are just completing work at the University, and the services of the Office of Teacher Placement are available to former students upon their request. The Office reserves the right of recommendation of candidates for positions.

The Office of Industrial Placement, designed for men and women graduates majoring in fields other than teaching, arranges on-campus interviews with industrial recruiters and assists students in securing full-time positions upon graduation. In addition, the services of the Office are available to those seeking part-time employment while attending the University.

There is no guarantee that positions will be obtained for students, but every reasonable effort is made in their behalf. All candidates for positions are expected to reimburse the Office of Teacher Placement and the Office of Industrial Placement for telephone messages and telegrams found necessary by the Placement Office Manager in transactions in behalf of the students. Accumulative placement records are maintained for each registrant, and transcripts of scholastic records may be obtained from the Office of the Registrar of the University. Transfer of application folders is made between University of California, Santa Barbara, and the University of California, Berkeley, Davis, Los Angeles, and Riverside.

THE STUDENT UNION

Within the Student Union are lounge and recreation rooms, the Student Book Store, the Associated Students offices, the Student Union Coffee Shop, Barber Shop, and other facilities incident to student activities on campus.

STUDENT ACTIVITIES

Student Organizations. The major student organizations include the Associated Students, the Associated Men Students, the Associated Women Students, and departmental and class organizations.

Residence Hall Organizations. Students in residence halls are organized in living groups and conduct social, recreational, and cultural activities for their members. All these organizations are integrated by means of a Residence Hall Council. Student government at this level is coordinated with the Associated Students through participation of council members on appropriate Associated Student committees and boards.

Sororities and Fraternities: There are eight national sororities and seven national fraternities. These function through the Panhellenic Council and the Interfraternity Council respectively. New women students may apply for Fall Rush after July 1, 1961. The deadline for return of completed application forms is September 1, 1961. Further information about these organizations may be secured from the Office of the Dean of Students.

Phrateres. This is a women's international social and service organization open to all women students.

In addition to these, the University of California, Santa Barbara, offers opportunity for membership in many national honorary professional fraternities, national and local service organizations, and special-interest groups. There are fourteen academic honorary organizations and six honorary service organizations as listed below. In addition, there are a number of departmental clubs not listed.

Honorary Organizations

Alpha Mu Gamma (Foreign Language)
Alpha Phi Gamma (Journalism)
Beta Beta Beta (Biology)
Cal Club (Intercampus)
Chi Alpha Delta (Elementary Education)
Delta Phi Upsilon (Early Childhood Education)
Epsilon Pi Tau (Industrial Arts)
Epsilon Xi Epsilon (Electricity)
Gamma Epsilon Tau (Graphic Arts)
Kappa Delta Pi (Education)
Kappa Omicron Phi (Home Economics)
Phi Alpha Theta (History)
Phi Beta (Women majoring in Speech or Music)
Pi Sigma Alpha (Political Science)
Scabbard and Blade (Military Science)
Sigma Delta Mu (Metal Working)
Tau Kappa Alpha (Forensics)
Theta Alpha Phi (Dramatics)

Honorary Service Organizations

Alpha Phi Omega (Scout Leadership)
Block C (Lettermen)
Blue Key National (Upperclassmen)
Chimes (Junior Women)
Colonel's Coeds (ROTC support)
Crown and Scepter (Senior Women)
Spurs (Sophomore Women)
Squires (Sophomore Men)

Student Activities. The Associated Students sponsors the publication of a semiweekly newspaper, a yearbook, a directory, a program of intercollegiate athletics, debating, radio programs, speech contests, dramatics, a dance concert, musical productions, assembly programs, and a special program of dances, picnics, and assemblies.

Eligibility for Office in Student Organizations. In order to be a candidate for office, or to maintain an office, a student must have a total scholastic average of at least a grade C, and must have earned at least a grade C average the previous semester and carry a program of no less than 12 units, unless practice teaching is a part of the program.

STUDENT MAIL

Students residing on campus may receive mail addressed to them as follows: Name; Residence Hall; University of California, Santa Barbara; University, California. A United States Post Office substation is located in the de la Guerra Dining Commons complex. Its services include selling stamps and money orders, mailing insured or other packages, handling all kinds of mail, and renting locked mail boxes.

Students living off campus may have their mail sent directly to their college residences or they may wish to use the University substation. They are eligible to rent the locked mail boxes and use the name of the substation: University, California.

CAMPUS OFFICE HOURS

Normally, campus offices are open 8–12, 1–5, Monday through Friday. The Office of Public Information is open Saturday morning, 9–12, in addition. Limited general information may be obtained from the library over the week end. Matters pertaining to admissions and housing may be arranged by mail.

Campus telephone: WOodland 7-5611.

REQUIREMENTS FOR DEGREES AND CREDENTIALS

COLLEGE OF LETTERS AND SCIENCE
GENERAL REQUIREMENTS

Unit and Grade-Point Requirements. A minimum of 120 semester units and twice as many grade points, is required for graduation with a Bachelor of Arts degree. In order to graduate, the candidate's record must show twice as many grade points as there are units in the total credit value of all courses undertaken in the University of California. Moreover, *the student must maintain at least a C average in the field of study which constitutes a major or a minor,* and at least a C average in the upper division work taken in the major.

The attention of transfer students is directed to the fact that this minimum average must be maintained in the courses undertaken in the University of California. Half of the minimum number of units required for graduation will normally be completed in lower division status. No fewer than 40 units of the total requirements must be selected from upper division courses taken in upper division status.

Extension Credit toward Graduation. Units received in University of California extension courses prefixed by X, XB, XD, XL, XR, XSB, or in extension courses acceptable for transfer to the University of California from other universities, may be counted toward graduation. Such courses taken while the student is regularly enrolled at Santa Barbara must be (1) included in the student's program, (2) counted as a part of the student's course load, and (3) approved by the student's adviser. The entire approved study list must be filed with the Registrar's Office *before the work is undertaken.* Petition forms requesting authorization for such extension and correspondence courses may be obtained at the Registrar's information window.

Residence Requirement. Every candidate for a bachelor's degree is required to have been enrolled at the Santa Barbara campus during the senior or final year of residence. Twenty-four units must be completed while so enrolled. For this purpose, it is permissible to offer Summer Session work undertaken at Santa Barbara, but the student must complete at least one regular semester of his senior or final year in resident courses of instruction. Credit earned by special examinations taken at Santa Barbara does not meet this requirement.

For the student's protection, he should file a petition to enroll in any course taken off campus during the senior year before enrolling in that course.

AMERICAN HISTORY AND INSTITUTIONS

A knowledge of the provisions and principles of the United States Constitution and of American history, including American institutions and ideals, and of the principles of state and local government established under the Constitution of the State of California, is required of all candidates for the bachelor's degree. This requirement may be satisfied by any of the following choices:

1. Political Science 20 and one of the following: History 17A, 17B, or 8B.
2. History 17A–17B.
3. History 8A–8B.
4. Any two upper division courses chosen from the following: Political Science 100, 113, 152, 157, 172; History 171, 173A, 173B, 174, 175, 177, 181.
5. Political Science 20 and any one of the upper division courses listed in 4 above.

6. Passing a noncredit examination in American history or American institutions. For further information see the Department of Political Science.
7. Presenting evidence that the requirement has been satisfied at another collegiate institution whose credits are acceptable for transfer at the University of California, Santa Barbara.

Credit for any of the above courses earned in University Extension or in summer session may be used in fulfilling this requirement.

In special instances a deviation from these methods of satisfying the requirement may be authorized by the Dean of the College of Letters and Science.

MILITARY SCIENCE

Every able-bodied male undergraduate in the lower division who is a citizen of the United States, unless he is over twenty-three years of age and has been officially notified of exemption, must report immediately at the time of preenrollment for enrollment in military science. Students must list the prescribed courses in military science on their study card with other courses. Students claiming exemption from all or part of the basic course because of noncitizenship, physical disability, active service in the Armed Forces, or previous R.O.T.C. training may petition the University for exemption. The petition for excuse from, or deferment of, military science must be filed on or before pre-enrollment day. A student who petitions to be excused from military science must nevertheless present himself to the proper instructors for enrollment while action on his petition is pending.

Upon submission of a petition, veterans of the Armed Forces may be exempted from the basic course and may, upon application, be admitted to the advanced course when upper division academic standing has been achieved.

If a student subject to this requirement lists the prescribed course on his study card, and thereafter without authority fails to appear for work in the course, his neglect will be reported to the Chancellor, the Dean of the College of Letters and Science, Dean of Students and the student's major adviser. The Professor of Military Science may invoke temporary and immediate suspension. The student's case will be referred to a review board who will report its findings and recommendations to the Chancellor through the Dean of the College of Letters and Science.

Further information about the requirement in military science, including a statement of the grounds upon which students may be excused from this work, is obtainable from the Department of Military Science.

Students who enter the University with advanced standing will have the requirements in military science reduced in accordance with the following schedule, unless military science units earned in any of these semesters are used as the basis of exemption:

	Required Military Science
Any credit of less than 12 units	4 semesters
One semester (12 units)	3 semesters
Two semesters (24 units)	2 semesters
Three semesters (36 units)	1 semester
Four semesters (48 units)	None

PHYSICAL EDUCATION

The 2-unit requirement in physical education should be satisfied by enrollment in activity courses through four consecutive semesters in the freshman and sophomore years. (See pages 176–179.) Upon recommendation by the University physician, a student who is unable to enroll in activities courses must enroll in special individual adaptation classes.

DISTRIBUTION OF UNITS

The major is usually limited to 40 units. In addition to his major the student will complete the Program in General Education associated with his major and will normally be able to choose certain elective courses to complete his required total number of units.

Lower Division

A student with fewer than 60 units is classified in the lower division. The emphasis in the lower division in all departments is upon general education rather than specialization.

Students without declared majors during the freshman year should follow the standard program advised for all freshmen (see page 66).

Upper Division

Students with 60 units or more are classified in the upper division, but any student with 55 or more units may register for upper division courses and receive upper division credit. In order to graduate, each student must have at least 40 upper division credits taken while he is an upper division student. No student with fewer than 55 units toward graduation may enroll in an upper division course without the permission of the Dean.

PROGRAMS IN GENERAL EDUCATION

PROGRAM I. Students selecting the following majors must complete the general education requirements outlined in this section: anthropology, art, biology, botany, chemistry, drama, East Asian studies, economics, English, French, geology, German, Hispanic civilization, history, mathematics, music, philosophy, physical science, physics, political science, psychology, rhetoric and public speaking, social science, sociology, Spanish, tutorial program, and zoology.

	Units
1. Literature and Foreign Language	
(*a*) English 1A–1B	6
* (*b*) Foreign Language	0–12 (16)
(*c*) Elective: chosen from English: any literature course, OR Foreign Language: any literature course, OR Speech: 45, 160A, 160B, 160C	3 (4)
2. Natural Science and Mathematics	
(*a*) Biology 1A, OR Botany 1, OR Zoology 1A	4
(*b*) Chemistry, Geology or Physics, including a laboratory course**	4
(*c*) Elective: 3 to 4 units chosen from 6(*b*) below	3 (4)

* The college requires the completion of course 3 in one language or course 2 in each of two languages. The requirement may be satisfied partially or wholly by one foreign language taken in high school as follows:

Two years high school foreign language—4 university units

Three years high school foreign language—8 university units

Four years high school foreign language—12 university units

Students continuing their high school language in the university should do so as soon as possible after entrance. Foreign students should consult the Foreign Student Adviser.

** A student who has received high school credit for a year course in chemistry (or physics) with a grade of C or better will not be permitted to count Chemistry 20 (or Physics 20) as part of his General Education Program.

3. Social Science and Psychology — *Units*
   (*a*) Anthropology 2, OR Psychology 1, 101, OR Sociology 1, 101 . . 3
   †(*b*) Elective: 3 units chosen from 6(*c*) below 3

4. History and Philosophy
   †(*a*) History: any course 3
   (*b*) Philosophy 1, 6A–6B, 20A–20B 3–6

5. Art and Music (take *a* OR *b* OR *c*) 4
   (*a*) Art 1 and Music 15, OR
   (*b*) Art 1 and two art units chosen from 6(*e*) below, OR
   (*c*) Music 15 and two music units chosen from 6(*e*) below, exclusive of activities.

6. Area Requirements: at least 15 additional units from outside the major discipline, dispersed among at least 3 areas with no more than 7 units (or two 4-unit courses) in any one area. The choice of elective courses is subject to satisfaction of prerequisites which may include consent of instructor 15

   (*a*) English: any literature course
   Foreign Language: any literature course
   Speech: 11, 42, 45, 130, 142, 154, 160A, 160B, 160C
   (*b*) Biology: 1B, 30, 130, 131, 150, 195A, 195B
   Botany: 2, 3, 105, 106, 140, 151
   Zoology: 1B, 104, 113A, 113B
   Chemistry 20, 21, 40, 41, 101
   Physics 20, 21, 101
   Geology: 2, 3, 7, 101, 105, 107, 109, 117
   Mathematics: 3A, 30, 32
   (*c*) Anthropology: any course
   Economics: 1A, 1B, 10, any upper division course
   Geography 1B
   †Political Science: any course
   Psychology: any course
   Religious Institutions: any course
   Sociology: any course
   (*d*) †History: any course
   Philosophy: 31, any upper division course
   (*e*) Art: 4, 8, 102 through 118 inclusive
   Music: 16, 115 through 119 inclusive, upper division activity courses (maximum 2 units)

7. Additional Requirements
   (*a*) Physical Education 2
   (*b*) Military Science (men) 0–6

PROGRAM II. Students selecting the following majors must complete the general education requirements outlined in this section: art and home economics, education, home economics, industrial arts, music with special emphasis in performance, physical and health education, speech, and speech and hearing.

	Units
Art and music	4
(An appreciation course must be taken in at least one department. Activity courses are allowed in one department)	
Controlled electives from fields of general education	5–6
(Courses vary from department to department)	

† The attention of the student is directed to the requirement in American History and Institutions which may be satisfied by upper or lower division courses. (See pages 62 and 63.)

	Units
English and speech (Including English 1A–1B and Speech 11)	12
Military science (men)	0–6
Physical education activities	2
Psychology 1	3
Sciences (Both biological and physical sciences or mathematics, including at least one laboratory course, must be included)	9–10
Social sciences (See pages 62 and 63 in regard to the American History and Institutions requirement)	9

FRESHMAN PROGRAMS

All freshmen must be guided by the following standard program, unless they are specifically allowed to depart from it by their faculty advisers and the Dean of the College of Letters and Science. Students taking General Education *Program I* must enroll in English, foreign language, science or social science, physical education, military science (men). Those taking General Education *Program II* must enroll in English, science, social science, physical education, military science (men).

STUDENT TEACHING

The public schools of the city of Santa Barbara and near-by cities and towns afford the laboratory for student teaching. Both demonstration of modern practices and supervision of student teachers are carried out by selected teachers and principals of these schools under the direction of the Department of Education. Student teachers are placed in all grades from the kindergarten through the secondary schools. For further information, see pages 110 and 111 and the descriptions under the respective departments.

Requirements

Grades. In order to register for student teaching at the early childhood, elementary, junior high and special secondary level, the student must have maintained a scholarship average of grade C or higher in courses taken in the University of California.

At the conclusion of any semester, should the student's average fall below grade C, he may not register for student teaching until the C average has been reestablished.

No student may be graduated, with teaching credentials, with less than a C average in student teaching. When the scholarship average in student teaching falls below grade C, additional units beyond the 120 total units required for graduation will be imposed until the average grade in student teaching reaches the C standard. Any grade below a C in directed teaching is not considered of "passing quality."

An applicant for the general secondary credential must have earned certain undergraduate grade-point averages. During his junior and senior years he must have maintained a grade-point average of 2.75 in his major and 2.50 in his academic work in general. In applying these standards, the Committee on Admissions and Graduation may give some consideration to high scores attained on the achievement tests of the Educational Testing Service, or on the Graduate Record Examination, or on both.

Every student who has been admitted to the University of California, Santa Barbara, as an applicant for the general secondary credential and a fifth year of work must maintain an over-all minimum grade-point average of 2.75 in courses undertaken by him in his major, in his minor, and in education. A student who fails to maintain these standards of scholarship is subject to dismissal from the credential program.

Examinations for Student Teaching

Proficiency Test. Before commencing their student teaching, majors in any department must pass a proficiency test in the statutory subjects (reading, arithmetic, spelling, language, and penmanship). All students who desire to be recommended for a teaching credential by the University of California, Santa Barbara, or who plan to do student teaching to satisfy requirements for a teaching credential must meet this requirement. This test should be taken not later than the first semester of the junior year or preferably the first half of the sophomore year. In the case of transfers, it should be taken as nearly as possible in conformity with this schedule.

In the case of graduate or limited graduate students, the test should be taken at the first opportunity after registration here. It must be completed before a student teaching assignment will be given.

Speech Test. All candidates for teaching credentials in any department of the University of California, Santa Barbara, must prove their proficiency in speech by passing Speech 11; transfer students may present transfer credit in Speech 11 or its equivalent and in addition must pass the speech proficiency test during their first semester of enrollment at Santa Barbara. Speech majors or minors in this institution are not required to take the speech test. In special cases, Speech 46, 172 or certain other courses taken in the Department of Speech and Drama may be substituted for Speech 11 in satisfying this requirement. Students who complete Speech 11 with a D grade, or demonstrate lack of speech adjustment or show particular defects, either during the course work or in student teaching, may be required to take a corrective course or its equivalent. The speech test is given once each semester. Retests are allowed only in unusual cases.

Graduate or limited graduate students working toward a credential in this institution who have not had a speech course elsewhere should elect to take an *upper division* speech course here instead of Speech 11. If a speech course is transferred from another institution the speech test should be taken.

Physical Examinations for Teaching Credentials. See page 111.

Minors

In most of the majors a minor is not required in order to complete requirements for graduation.

To satisfy the requirement for the State credential, students whose major is in junior high school education must complete two minors in subjects taught in high school. For those departments in which minors are required or recommended, see the departmental descriptions. Candidates for the general secondary credential should plan to complete at least one minor.

Minors must be approved by the chairmen of the departments in which they are offered. At least a grade C average must be maintained in all courses taken at the University of California which are submitted for a minor for the Junior High School credential.

Units Required for a Minor. Eighteen to 20 units, of which 6 must be upper division, are, in general, required to complete a minor in any department. For details regarding the requirements for a minor in any department, the student should consult the chairman of that department.

Minors Available. The following minors are offered at Santa Barbara: anthropology, art, biology, botany, chemistry, economics, education, English, French, geology, German, graphic arts, health education, history, home economics, industrial arts, mathematics, military science, music (vocal, instrumental, theory, public school), philosophy, physical education, physical science, physics, political science, psychology, Spanish, sociology, speech, and zoology.

THE GRADUATE PROGRAM

The University of California, Santa Barbara, offers graduate programs leading to the Master of Arts degree and to the general secondary credential, and to the degree of Doctor of Philosophy.

Applications for graduate standing will be received from graduates of recognized colleges and universities. The basis of selection will be promise of success in the proposed work, as judged largely by the previous college record. The student's undergraduate program must have been of such character as to furnish an adequate foundation for advanced academic study.

INFORMATION CONCERNING GRADUATE STUDY

All persons seeking graduate standing must apply to the officer in charge of graduate affairs through the Office of Admissions. Each applicant must file with the Admissions Officer two copies of a formal application and an official transcript of his record from each college and university he has attended, not later than July 14 for the fall semester, and not later than December 15 for the ensuing spring semester. The application blank may be obtained from the Office of Admissions; University of California, Santa Barbara; University, California. The application must be accompanied by a money order or bank draft for $5 in payment of the application fee. Payment should be made for the exact amount, and checks, drafts, or money orders should be made payable to The Regents of the University of California.

Approval of an application does not constitute a commitment on the part of the University to accept the applicant as a candidate for a degree or to recommend him for a credential. Certain requirements must be met while in graduate standing prior to a student's formally becoming a candidate for a degree or receiving the recommendation for a credential. Moreover, the University reserves the right to withhold or withdraw from any student the privilege of candidacy or of recommendation prior to the completion of requirements for a degree or credential.

A limited number of teaching assistantships are available. More specific information may be obtained from the department chairman or the campus officer in charge of graduate affairs.

Students admitted to graduate status must be enrolled in either or both of two programs: (A) that leading to a graduate degree, and (B) that leading to recommendations for the general secondary credential.

Waiver of Nonresident Tuition Fee for Graduate Students. In exceptional cases, the tuition fee may be remitted, in whole or in part, for students in regular graduate status who have distinguished scholarship records and are carrying full programs of work toward higher degrees. Irrespective of how distinguished his scholarship may have been, a graduate student will not be exempted from payment of the tuition fee if he is carrying some lower division courses merely for his cultural advancement. Foreign students whose tuitions are paid by their governments are in no case eligible for remission of the nonresident fee.

The term *distinguished scholarship* in connection with the question of exemption from the payment of the tuition fee will be interpreted as follows: The scholarship standing must have been excellent throughout a period of no less than two years just preceding the time of application for this privilege. Moreover, only students from institutions of high standing in scholarly work will be considered. Applicants for this privilege will be required to have sent to the Dean of the Graduate Division, Southern Section, through the campus officer in charge of graduate affairs, confidential letters

about themselves from persons who are thoroughly acquainted with their personalities and their intellectual achievements. It should be clear from these statements, therefore, that only the decidedly exceptional student will be eligible for privilege of exemption from the payment of tuition if he is a nonresident. Students exempted from the tuition fee pay only the incidental fee. Petitions for exemption from the nonresident tuition fee must be filed with the campus officer in charge of graduate affairs *before registration.* The privilege of exemption from the nonresident tuition fee may be revoked at any time at the discretion of the campus officer in charge of graduate affairs if in his judgment a student fails to maintain distinguished scholarship, or if he proves himself unworthy in other respects. Exemption will be granted for only one semester in advance. Students seeking exemption from this fee will be required to file a separate petition for each semester that they are classified as nonresidents.

STUDY LIST LIMITS

The maximum programs for which graduate students may register are given in the table below. Study lists exceeding these limits may be accepted only with the approval of the officer in charge of graduate affairs.

Full Time Graduate Students			Teaching Assistants*			Persons Employed Full Time		
Graduate Units	Undergraduate Units	Total Units	Graduate Units	Undergraduate Units	Total Units	Graduate Units	Undergraduate Units	Total Units
0	16	16	0	12	12	0	6	6
1	15	16	1	11	12	1	5	6
2	13	15	2	9	11	2	4	6
3	12	15	3	8	11	3	3	6
4	11	15	4	7	11	4	2	6
5	9	14	5	5	10			
6	8	14	6	4	10			
7	7	14	7	3	10			
8	5	13	8	1	9			
9	4	13	9	0	9			
10	3	13						
11	1	12						
12	0	12						

* The minimum program a teaching or research assistant must register for, attend, and complete, is 6 units of upper division and/or graduate courses.

THE MASTER OF ARTS

Majors are offered in biology, botany, chemistry, economics, English, history, mathematics, applied mathematics, music, philosophy, physical education, physics, political science, psychology, and zoology.

Applicants for the Master's Degree

A student may apply for graduate standing to seek the master's degree. An applicant for this degree is subject to the following regulations:

1. *Admission.* No student may be admitted to the program for the master's degree without the approval of the chairman of his department, and the campus officer in charge of graduate affairs.

2. *Preparation.* The student's baccalaureate training must be substantially the equivalent to that required for the corresponding major at Santa Barbara.
3. *Residence.* At least two semesters of academic residence are required of all students seeking the master's degree. Each six-week summer session counts as one-half of one semester of residence. Further details may be obtained from the chairman of the department.
4. *Program.* The program of every student who is seeking the master's degree must be approved by his department. In Plan I (Thesis) at least 20 units (including no fewer than 8 graduate units) are required. In Plan II (Comprehensive Examination) 24 units (including no fewer than 12 graduate units) are required. Students seeking the master's degree may enroll in courses numbered 198 and 199, but may not utilize them to satisfy the requirements for this degree. Further information regarding graduate course requirements may be obtained from the chairman of the department.
5. *Candidacy.* Admission to candidacy is *not automatic.* Approximately one semester prior to the completion of the requirements for the master's degree, an applicant for the degree must make formal petition for *advancement to candidacy.* Further details may be obtained from the office of the campus officer in charge of graduate affairs.
6. *Standards of Scholarship.* Every student who has been admitted as an applicant for the master's degree must maintain at least a 3.0 grade-point average in courses accepted by his department chairman as part of the 24 units required for the master's degree program. In addition, the student in the program must maintain a 3.0 average at the close of the first semester of residence. A student who fails to maintain these standards of scholarship is subject to dismissal from the program.

THE GENERAL SECONDARY CREDENTIAL

The California general secondary credential authorizes the holder to teach any or all subjects in California (with the exception of classes organized under the provisions of the Federal and State Vocational Education Acts) in all grades of any junior college, senior high school, four-year high school, junior high school, and the seventh and eighth grades of elementary school.

A student must apply for graduate standing for the purpose of obtaining the general secondary credential.

Majors and minors are offered in the following subjects:

Art
Biological Science
- Biology
- Botany
- Zoology

English
Foreign Language
- French
- German
- Spanish

Home Economics
Industrial Arts
Mathematics
Music
Physical Education
Physical Science
- Chemistry
- Geology (comprises physical science major)
- Physics
- Physical Science

Social Science
- Anthropology
- East Asian Studies
- Economics
- Hispanic Civilization
- History
- Political Science
- Social Science Combination
- Sociology

Speech and Drama

A minor is also offered in Military Science.

Applications for Recommendation for the General Secondary Credential

An applicant for this credential is subject to the following regulations as well as to those imposed by the State Department of Education:

1. *Admission.* No student may be admitted as an applicant for the general secondary credential unless his application is approved by the chairman of the department of his teaching major, and the campus officer in charge of graduate affairs.

2. *Preparation.* The student's baccalaureate training must be substantially the same as that required in the field of his teaching major at Santa Barbara. The applicant's undergraduate program must exhibit breadth in general education in such fields as the fine arts, languages and literature, the sciences, psychology, philosophy, and the social sciences. Deficiencies in this regard must be removed prior to admission to candidacy as prescribed by the chairman of the department of the teaching major and approved by the campus officer in charge of graduate affairs.

3. *Scholarship.* Admission into the general secondary program requires a 2.5 grade-point average for all work taken in the junior and senior years and a 2.75 grade-point average for work taken in the major during the junior and senior years. In applying these standards, the campus officer in charge of graduate affairs may give some consideration to high scores attained on the achievement tests of a recognized national testing service.

   Every student who has been admitted to the Santa Barbara campus as an applicant for the general secondary credential must maintain an over-all minimum grade-point average of 2.75 in courses undertaken by him in his major, in his minor, and in education. In addition, the student in the general secondary credential program must maintain a 2.75 average at the close of the first semester of residence. A student who fails to maintain these standards of scholarship is subject to dismissal from the credential program.

4. *Residence.* The residence requirements for recommendation for the general secondary credential are the same as those for the master's degree.

5. *Program.* The program of every student who is seeking the general secondary credential must be approved by the chairman of the department of his teaching major, in consultation with the Department of Education. In addition, a teaching minor is required; the minor may be completed before graduation or during the graduate year. With the consent of the Department of Education and the campus officer in charge of graduate affairs, certain nonteaching majors (as psychology) are acceptable if supported by two teaching minors.

   To be recommended for the credential, the student in his graduate year must complete at least 24 units of upper division and/or graduate work, 6 of which must be in subject fields commonly taught in secondary schools and at least 6 units in professional education. A total of 24 units in education is required; 6 or more of these units should be completed before graduation if the credential program is completed in 2 graduate semesters. For proper sequence of courses see page 110.

   Assignment to student teaching is not automatic. Certain preliminary steps must be taken by the student.

   1. Prerequisite education courses should be begun no later than the first semester of the senior year, but preferably earlier.
   2. Not later than the end of the first six weeks of the semester immedi-

ately preceding a student teaching assignment, the student must file with his major department an application for student teaching. If approved by the department, this application is forwarded within 2 weeks to the Director of Student Teaching.

3. The Education 190 procedures in the major or minor must be completed or in process during the semester of application.
4. The applicant must meet the requirements of a general achievement test, demonstrate proficiency in oral expression, and pass a preliminary health examination. For further details see Student Teaching pages 110 and 111.

The application for student teaching is reviewed by the Committee on Teaching Eligibility. If approved, a student teaching assignment is made through the office of the Director of Student Teaching.

THE DEGREE OF DOCTOR OF PHILOSOPHY

The Doctor of Philosophy degree is offered in Biology and in History. Requirements for this degree may be found in the ANNOUNCEMENT OF THE GRADUATE DIVISION, SOUTHERN SECTION. Other details may be obtained from the Chairman of the Department of Biology or History.

CAREERS FOR GRADUATES OF A LIBERAL ARTS PROGRAM

THE FIRST CAREER a student in a liberal arts program pursues is the university itself. Here he will remain, if he enters as a freshman and later obtains his A.B., for four years; here, whatever his major, he will take work in science, literature, philosophy, history, the fine arts, and a variety of other subjects; here, his total academic experience may include more than forty separate semester courses; and, finally, what happens to him here can alter the entire course of his later life.

A student's first obligation to his career *within* the liberal arts program is to make it the most exciting one possible for himself as an individual; and he can best do this by selecting the subjects and the teachers that offer his own particular mind the greatest stimulation and the greatest possible opportunities for growth. He will discover what these courses are, and who these teachers are, with the help of fellow students, faculty advisers, and his own experience as he proceeds from semester to semester. If his career *within* the college is a success—that is, if he achieves, in pursuing it, a maximum of intellectual exhilaration and a minimum of sheer boredom—he will leave college with the best possible preparation for his own future: an educated mind and a habit of enthusiastic response to any challenge that may confront him.

Besides being a career in itself, a liberal arts program also offers its students varying degrees of opportunity to prepare themselves for specific sorts of life work after graduation. For some later careers, such as that of a doctor or a physicist, preparation needs to begin early and requires careful planning; for others, such as that of a lawyer, journalist, or businessman, much greater flexibility in choice of university courses and major subjects is possible. A few notes on specific careers which have been embarked on by graduates of the University of California, Santa Barbara, follow.

AGRICULTURE, FORESTRY, LANDSCAPE ARCHITECTURE

These professions require a strong program in the natural sciences with a major in botany. Preprofessional training in landscape architecture includes suitable courses in art. A year in a graduate or technical school subsequent to graduation forms a basis for a position of leadership in the field.

BUSINESS

Business opportunities, especially in the executive branches, are excellent today for graduates of liberal arts institutions. Many students, in preparation for a business career, major in economics; but many other majors also number successful businessmen among their graduates. One of the leading graduate schools of business administration in the United States today leaves the widest possible choice of courses and majors open to all applicants; its catalogue reads as follows: "To be eligible for admission . . . a man ordinarily must hold a bachelor's degree or its equivalent from a recognized collegiate institution in this country or abroad. There are no specific courses, prerequisites, majors, or areas of concentration a man must have completed to qualify as an applicant. The Admissions Board is more interested in the quality of the man and the quality of the work done than it is in the specific courses taken."

COLLEGE TEACHING

A student who, in the course of his college career, becomes sufficiently interested in his major subject, or in some other subject, may wish to consider college teaching as a possible career. If so, he should seek advice from the faculty members in the area that interests him. He should also take into account, in planning his own future, the fact that most college teachers today find it an advantage to have the Ph.D. degree; and that for this degree, in many graduate schools, a knowledge of French, German, and sometimes a third language may be required.

JOURNALISM

Journalism students throughout the United States may be found to be majors in almost any field traditionally associated with the liberal arts.

LABORATORY TECHNICIANS

Students interested in becoming laboratory technicians should inquire through the secretary of the Department of Biological Sciences who will direct them to an adviser concerned with their specific field of interest.

LAW

The *legal profession* regards a broad liberal arts education as its soundest background. Most valued prerequisites for later legal training are: the ability to write and speak with clarity and precision; a critical understanding of the human institutions and values with which the law deals; and creative power in thinking. The development of these fundamental capacities is not necessarily dependent upon any particular course or combination of courses, but must be fitted to individual interests and needs. However, most prelaw students tend to major in one of the social sciences.

LIBRARIANSHIP

Librarianship today covers a wide field. A good general education is an excellent background for the graduate study for this profession, and the undergraduate program for prospective librarians should include varied courses in the liberal arts field, the humanities, arts, sciences, and social sciences. Foreign languages are useful and sometimes required. There is an increasing need in the large and special libraries for specialized subject interests, and any subject major provides useful undergraduate training.

MEDICINE, DENTISTRY

Medicine and dentistry are professions which have long been receiving graduates from Santa Barbara. Students interested in these fields are advised to major in zoology or in analytical biology. A thorough grounding in the biological and physicochemical sciences coupled with a strong emphasis on general education has shaped not only the objectives of the premedical program, but the admissions policies of medical schools. While some medical and dental schools accept students at the end of their junior year of undergraduate premedical or predental training, experience has shown that only students with outstanding academic records are admitted without the bachelor's degree. Therefore, students interested in these fields are strongly advised to follow the regular degree program in whatever major they choose, rather than solely to satisfy specific preprofessional course requirements.

NURSING

Students interested in entering a nursing school which requires two years of college preparation and awards a bachelor's degree on completion of the nursing curriculum may complete the prenursing requirements for most such schools. They should major in biology or zoology and complete the first two years of the regular degree program, selecting those courses which will satisfy both programs.

PHYSICAL THERAPY

Students interested in physical therapy as a profession should major in the Department of Physical Education for women. A preparatory program in physical therapy is available and provides students with a rich background in the areas of the physical and biological sciences, psychology, and movement education.

SOCIAL WORK

Social work as a profession now requires specialized training in a graduate school. Students interested in the profession are advised to major in one of the social sciences and to include in their programs courses in sociology, economics, anthropology, political science, psychology, and statistics. Students at Santa Barbara may select courses which will prepare them for a graduate school of social work or, in some instances, for in-service training programs or direct employment. Additional information may be obtained from the Department of Sociology-Anthropology.

COURSES OF INSTRUCTION, 1961–1962

EXPLANATORY NOTE

The Semester Unit. A semester unit represents one full period of classwork per week with two hours outside preparation or, if a laboratory subject, three full periods a week, taken for the entire semester. In any laboratory course, three laboratory hours have the unit value of one lecture hour. The unit value of each course is indicated by a number in parentheses immediately following the title of the course.

Roman Numeral and Letter Designations. The Roman numerals I and II and the letters Yr. are placed after the unit value of courses to show when they are offered: I, in the fall semester; II, in the spring semester; I, II, in both semesters; and Yr., continued through the fall and spring semesters.

Year Courses; Double Numbers. A course designated by a double number (for example, History 4A–4B) is continued through two successive semesters, ordinarily from September to June. The student should use the first number in registering for the course during its first semester, and the second number during its second semester. Generally the first half of such a course is prerequisite to the second half. A final report is made by the instuctor at the end of each semester. The student may discontinue the course at the end of the first semester, with final credit for the first half of the course, except as otherwise noted.

Classification and Numbering of Courses. Courses are classified and numbered as follows:

(1) *Lower Division Courses* (numbered 1–99, or indicated by letters if in subjects usually given in high school). A lower division course is one open to freshmen and to sophomores; such courses are not credited as upper division work in any department.

(2) *Upper Division Courses* (numbered 100–199). An upper division course in any department is one which is open only to those students who have completed a lower division course, or courses, in that department, or is an elementary course in a subject of such difficulty as to require the maturity expected of an upper division student.

(3) *Graduate Courses* (200–299). A graduate course is one which is open normally only to students in graduate standing.

Special courses in each department numbered 199, and entitled, for example, Independent Studies in Art, Independent Studies in Biological Sciences, are courses which present an opportunity for independent study on the part of well-prepared major and minor students *who have completed 85 or more units.* No more than six semester hours of 199 courses can be credited to a student, and the limit for one semester is 4 units.

ART

Kurt Baer, Ph.D., *Professor of Art.*
Catherine C. Campbell, M.A., *Associate Professor of Art.*
William E. Dole, M.A., *Associate Professor of Art (Chairman of the Department).*
Howard C. Fenton, M.A., *Associate Professor of Art.*
Jacob Lindberg-Hansen, M.A., *Associate Professor of Art.*
William A. Rohrbach, M.A., *Associate Professor of Art.*
Ruth M. Ellison, M.A., *Associate Professor of Art, Emeritus.*
Mario A. Del Chiaro, Ph.D., *Assistant Professor of Art.*
Leland W. Gralapp, Ph.D., *Assistant Professor of Art.*
Robert C. Thomas, M.F.A., *Assistant Professor of Art.*
Howard Warshaw, *Assistant Professor of Art.*
Conway Pierson, M.F.A., *Instructor in Art.*
William R. Ptaszynski, *Instructor in Art.*
Thomas B. Cornell, *Associate in Art.*

The degree of Bachelor of Arts is offered in this department. The major in art requires the completion of General Education Program I.

The Department of Art reserves the privilege of retaining student work for a period of one year for exhibition purposes. In laboratory classes the department requires 3 hours of work each week for each unit.

THE MAJOR

For general education requirements see pages 64–66.

All art majors are required to take History 4A–4B (European History).

I. The Major with the Painting Emphasis.

A. Preparation for the major—16 units in the lower division: Art 1, 4, 8, 20A–20B, 31 or 40, 38, 42.

B. Twenty-six units in the upper division with 6 units in art history including either Art 108A or 112A, and 120A–120B, 128A–128B, 131, and 8 units from 142, plus 2 units of electives.

II. The Major with the Sculpture Emphasis.

A. Preparation for the major—16 units in the lower division: Art 1, 4, 8, 20A–20B, 31 or 39, 38, 42.

B. Twenty-six units in the upper division with 6 units in art history, including 113, and 39 or 175, 120A–120B, 131, and 8 units from 160, 161, plus 2 units of electives.

III. The Major with the History Emphasis.

A. Preparation for the major—16 units in the lower division: Art 1, 4, 8, 20A, 31, 38, 20B or 39, 42.

B. Twenty-six units in upper division art history, including 105, 108A, 112A–112B, and Art 131.

Recommended for all majors: Philosophy 136.....3 units

MINOR

Requirements for the Minor. Satisfactory completion of the following 20 units.

	Units
Art 1. The Understanding of Art	2
Art 4. History of Ancient Art	
or	
Art 8. History of Modern Art.....	2

	Units
Art 20A–20B. Beginning Drawing	2–2
Art 31. Design and Color	2
Art 42. Beginning Painting	2
Art electives—upper division	8

CREDENTIAL PROGRAM

A. *The General Secondary Credential, Teaching Major.* The candidate must complete a major in art, and the following courses: Art 39, Art 170A–170B. At least 6 units in subject fields commonly taught in secondary schools must be earned while the student is in graduate standing. He must also complete a teaching minor as prescribed by the minor department. In addition the candidate must complete 24 units in education as prescribed by the Department of Education (see page 110), including 6 units of practice teaching—4 units in the major and 2 units in the minor.

B. *The General Secondary Credential, Teaching Minor.*

Completion of the following units:	*Units*
Art 1. The Understanding of Art	2
Art 4. History of Ancient Art	
or	
Art 8. History of Modern Art	2
Art 20A–20B. Beginning Drawing	4
Art 31. Design and Color	2
Art 42. Beginning Painting	2
Art 131. Advanced Design and Color	2
Art 170A. Design in Materials	2
Upper division art history	2
Art 39 or 175A or 182	2
Education A 190B. Teaching Procedures in Secondary School Art	2
Education A 192A. Student Teaching in Art	2

C. *The Special Secondary Teaching Credential in Art.*

The candidate must complete a major in art and the following courses:

Art 39. Ceramics	*Units*
or	
Art 175A. The Art of Pottery and Ceramic Sculpture	2
Art 170A–170B. Design in Materials	2–2
Education 110. Educational Psychology	3
Education 147. Audio-Visual-Radio Education	2
Education 170. Secondary Education	3
Education A 190A. Teaching Procedures in Elementary School Art	2
Education A 190B. Teaching Procedures in Secondary School Art	2
Education A 192. Student Teaching	6

Also required are proficiency tests, Speech 11 or examination, and physical and health examinations. (See pages 67, 111.)

LOWER DIVISION COURSES

1. The Understanding of Art. (2) I, II. Mr. Baer
An appreciation of the art expressions of various cultures.

4. History of Ancient Art. (2) I. Mr. Del Chiaro
Primarily for majors.
From the Stone Age to the Renaissance.

8. History of Modern Art. (2) II. Mr. Del Chiaro
Primarily for majors.
Renaissance through modern art.

20A. Beginning Drawing. (2) I, II. Mr. Dole
Drawing in various media including the use of the human figure, anatomy.

20B. Beginning Drawing. (2) I, II. Mr. Warshaw
Prerequisite: Art 20A.
Drawing in various media including the use of the human figure, anatomy.

31. Design and Color. (2) I, II. Mr. Ptaszynski
Analysis of and practice in principles of elementary composition.

38. Beginning Sculpture. (2) I, II. Mr. Thomas
Prerequisite: Art 20A.
Sculptural problems; modeling and casting.

39. Beginning Ceramics. (2) I, II. Mr. Lindberg-Hansen
Historical fundamentals and techniques of ceramics.

40. Preparation for Painting. (2) I, II. Mr. Dole
Prerequisite: Art 20A–20B.
An introduction to the problems of painting.

42. Beginning Painting. (2) I, II. Mr. Fenton
Prerequisite: Art 20A, 31.
Composition in color; water-color media.

Upper Division Courses

102. Oriental Art. (2) II. Mr. Fenton
The architecture, sculpture, and painting of India, China, and Japan.

***103. Prehistoric and Primitive Arts.** (2) I. Mr. Fenton
The art expressions of African, Oceanic, and prehistoric European cultures.

104. Ancient Art. (3) I. Mr. Del Chiaro
Recommended: Art 4.
The architecture, sculpture, and painting of Egypt, the Near and Middle East.

105. Greek and Roman Art. (3) II. Mr. Del Chiaro
Recommended: Art 4.
The architecture, sculpture, and painting of ancient Greece and Rome.

107. Medieval Art. (2) II. Mr. Gralapp
Architecture, sculpture, and painting; late Roman to 1300 A.D.

108A. Renaissance Art. (2) I. Mr. Gralapp
Renaissance Art in the south. Architecture, sculpture, and painting of the Renaissance in Italy and Spain.

108B. Renaissance Art. (2) II. Mr. Gralapp
Renaissance Art in the north. Architecture, sculpture, and painting of the Renaissance in Germany, Flanders, France, and England.

110. Seventeenth- and Eighteenth-Century Painting (2) I.
Baroque and neoclassic painting. Mr. Lindberg-Hansen

111. Painting in the Nineteenth Century. (2) I. Mr. Fenton
Artists and the cultural backgrounds from neoclassicism to the twentieth century.

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* Not to be given, 1961–1962.

112A–112B. Comparative Studies in Contemporary Art. (3–3) I, II.
Mr. Baer
An analysis of concepts and trends in architecture, sculpture, painting, music and theater during the twentieth century.

113. History of Sculpture. (2) II. Mr. Lindberg-Hansen
Major periods of sculpture from ancient times to the present.

115A. Spanish Art. (2) I. Mr. Baer
The architecture, sculpture, and painting of Spain and Portugal from classical times to the present.

115B. The Arts of Hispanic America. (2) II. Mr. Baer
The architecture, sculpture, painting and crafts from Pre-Columbian times to the present.

***117. The Art of the United States.** (2) II. ———
Architecture, sculpture, and painting in the United States from Colonial times to the present.

118. History of Costume. (2) II. Mrs. Campbell
Historic style periods from ancient times to 1900.

120A. Advanced Drawing. (2) I, II. Mr. Rohrbach
Prerequisite: Art 20A–20B.
Drawing in various media including the use of the human figure, anatomy.

120B. Advanced Drawing. (2) I, II. Mr. Warshaw
Prerequisite: Art 20A–20B, 120A.
Drawing in various media including the use of the human figure, anatomy.

128A–128B. Print-Making. (2–2) I, II. Mr. Cornell
Prerequisite: Art 20A, 31.
Original print design and method.

131. Advanced Design and Color. (2) I, II. Mr. Fenton
Prerequisite: Art 20A–20B, 31, 42.
Problems in contemporary design theory.

140. Painting Techniques. (2) II. Mr. Dole
Prerequisite: Art 20A–20B, 31, 42.
A historical and practical study of the materials of painting, and their use.

142. Advanced Painting. (2) I, II. Mr. Dole, Mr. Rohrbach, Mr. Warshaw
Prerequisite: Art 20A–20B, 31, 42, 131.
Painting problems in various media; may be repeated for credit, limited to 8 units.

160. Advanced Sculpture. (2) I, II. Mr. Thomas
Prerequisite: Art 20A–20B, 31, 38, 131.
Sculptural problems in various techniques. May be repeated for credit, limited to 8 units.

161. Wood Sculpture. (2) I. Mr. Lindberg-Hansen
Prerequisite: Art 20A–20B, 31, 38, 131.
Composition in relief and in the round.

170A–170B. Design in Materials. (2–2) I, II. Mr. Pierson
Prerequisite: Art 31.
Design and experiment in various materials.

* Not to be given, 1961–1962.

175. The Art of Pottery and Ceramic Sculpture. (2) I, II.
Prerequisite: Art 39 or consent of the instructor. Mr. Lindberg-Hansen
Creative design, construction, glazing, and firing. May be repeated for credit, limited to 8 units.

182. Art in Photography. (2) I, II. Mr. Rohrbach
Laboratory, lectures, field trips. Prerequisite: Art 31 or equivalent.
Introduction to photography as an art medium.

195. Art for Elementary Schools. (2) I, II. Mrs. Campbell, Mr. Pierson
Art techniques, laboratory practices, observations. For non-art majors.

199. Independent Studies in Art. (1–4) I, II. The Staff
Advanced individual problems.

Related Courses in Another Department

Education A 190A. Teaching Procedures in Elementary School Art. (2) I.
Mrs. Campbell

Education A 190B. Teaching Procedures in Secondary School Art. (2) II.
Mrs. Campbell

Education A 192A–B–C. Student Teaching: Art. (2–2–2) I, II.
Mrs. Campbell

ART AND HOME ECONOMICS

Staff members in the Departments of Art and Home Economics appropriately service this major. The Dean of the College of Letters and Science serves as department chairman.

The major is restricted to students who have specific interests in and potential talents for the stated fields. Entrance into the major is subject to the approval of the Dean. The major gives appropriate emphasis to general education.

This major is designed primarily for young women who wish to combine the study of art and home economics with other subject fields in a manner leading to intelligent homemaking and participation in community affairs. This major does not prepare for teaching. An adviser will be designated by the Dean.

General Requirements. Forty-seven units in general education must be completed (see General Education Program II listed on pages 65 and 66) including upper division English or speech electives and a controlled elective from Philosophy 1, or Sociology 1 or 120, or Anthropology 1 or 2, and Economics 109.

Preparation for the Major

Required Courses	*Units*
Art 1, 4, 8, 20A–20B, 31, 42	14
Home Economics 9, 10, 13, 15, 90, 93, and 95	17

The Major

Required Courses	
Art 118 or 170A, 131, upper division electives	8
Home Economics 101, 141, upper division elective (Recommended: 140)	8

The remaining 23–24 units for the degree may be general electives of which at least 21 units must be upper division courses to fulfill the 40-unit upper division requirement for graduation.

BIOLOGICAL SCIENCES

John E. Cushing, Ph.D., *Professor of Immunology (Chairman of the Department).*
Demorest Davenport, Ph.D., *Professor of Zoology.*
Mary M. Erickson, Ph.D., *Professor of Zoology.*
Garrett J. Hardin, Ph.D., *Professor of Biology.*
Cornelius H. Muller, Ph.D., *Professor of Botany.*
Elmer R. Noble, Ph.D., *Professor of Zoology.*
Barbara B. DeWolfe, Ph.D., *Professor of Zoology.*
Helen E. Keener, Ph.D., *Associate Professor of Biology.*
Maynard F. Moseley, Ph.D., *Associate Professor of Botany.*
Walter H. Muller, Ph.D., *Associate Professor of Botany.*
James L. Walters, Ph.D., *Associate Professor of Biology.*
Harrington Wells, M.A., *Associate Professor of Science Education.*
Phillip A. Adams, Ph.D., *Assistant Professor of Zoology.*
Joseph H. Connell, Ph.D., *Assistant Professor of Zoology.*
John R. Haller, Ph.D., *Assistant Professor of Botany.*
Philip C. Laris, Ph.D., *Assistant Professor of Biology.*
Edward L. Triplett, Ph.D., *Assistant Professor of Biology.*
Arthur D. Bissell, M.D., *Acting Assistant Professor of Biology.*
Eduardo Orias, Ph.D., *Instructor in Biology.*
Shirley R. Sparling, Ph.D., *Instructor in Botany.*
Herbert A. Kordan, M.S., *Associate in Botany.*
Homer T. Russell, Jr., Ph.D., *Associate in Biology.*
Adrian M. Wenner, Ph.D., *Associate in Biology.*
Marta S. Walters, Ph.D., *Research Associate in Biology.*

Requirements for the Majors. All students are expected to complete satisfactorily one of the three major programs listed below and on pages 84–87. With the approval of the department chairman, 6 of the required upper division units in the major may be taken in related fields. At the end of the senior year majors will be expected to pass a comprehensive examination covering their work in the major.

Requirements for the Minors. All students electing a minor in the biological sciences are required to present for graduation 20 units, including six upper division units, in courses in the department, consisting of one of the following three options:

Biology. Biology 1A or Zoology 1A; Botany 1; Botany 2 or Zoology 1B or Zoology 40. Any two courses from the following list: Biology 30, Biology 104, Biology 130, Biology 150, Botany 3, Botany 151, Zoology 104, Zoology 112, Zoology 113B.

Botany. Botany 1, Botany 2, Botany 3. The remaining units must be in botany, except that any two of the following biology courses may be included: Biology 1A, Biology 104, Biology 130, Biology 150.

Zoology. Zoology 1A–1B; or Biology 1A and Zoology 1B and either Zoology 112 or Zoology 113A. The remaining work must be in upper division zoology except that Biology 104, Biology 130, and Biology 150 are acceptable.

Pre-professional Program. Recommendations for pre-professional programs leading to subsequent study in agriculture, forestry, laboratory techniques, medicine, dentistry, nursing, and similar professions may be found on pages 73–75.

Biology

A. Emphasis upon Analytical Biology

This emphasis is designed for students whose principal interests lie in the relationships among the areas of genetics, cell biology, physiology, and the physical sciences.

Preparation for the Major

Required Courses	*Units*
Biology 1A* or Zoology 1A	4
Botany 1	4
Zoology 1B or Botany 2 or Biology 1B	3–4
Chemistry 1A–1B, General Chemistry	8
Chemistry 40, 41. Fundamentals of Organic Chemistry, or Chemistry 112A–112B. Organic Chemistry	4–8
Physics 2A–2B	8

Recommended:

Mathematics D, 3A–3B

The Major (25 units of upper division courses)

Required Courses

Biology 130. Genetics	4
Botany 107. Introduction to Plant Physiology, or Zoology 109. Comparative Vertebrate Physiology, Zoology 142, Comparative Invertebrate Physiology, or Biology 101. Cell Physiology	4
A field course in botany or zoology	3–4

An additional 13–14 units from the following list:

Biology 101. Cell Physiology	4
Biology 104. Microbiology	4
Biology 107. Cytology	4
Biology 127. Principles of Immunology	3
Biology 131. Evolution	3
Biology 132. Advanced Genetics	3
Biology 194A–B–C–D. Group Studies for Advanced Students	1–1–1–1
Biology 195A–195B. Development of Biological Ideas	1–1
Biology 198A–B–C. Readings in Biological Sciences	1–1–1
Biology 199. Independent Studies in the Biological Sciences	1–4
Botany 107. Introduction to Plant Physiology	4
Botany 128. Plant Metabolism	4
Zoology 100. Vertebrate Embryology	4
Zoology 103. Experimental Embryology	4
Zoology 109. Comparative Vertebrate Physiology	4
Zoology 142. Comparative Invertebrate Physiology	4

The substitutions up to 6 units that may be made from other courses (such as Physical Chemistry and Nuclear Physics Laboratory) must have the consent of the student's adviser and the department chairman.

B. Emphasis upon Field Biology

This emphasis is designed for students whose principal interest lies in the relationships of plants and animals to their environment and who wish to devote a considerable proportion of their major work to field courses.

* Students with A or B grades in Biology 1A may substitute Biology 1A for Zoology 1A, but in this event Zoology 112 must be taken.

Preparation for the Major

Required Courses	*Units*
Botany 1. General Botany	4
Zoology 1A.* General Zoology	4
Chemistry 20, 21. Introductory Chemistry, *or* Chemistry 1A–1B. General Chemistry	4–8
Chemistry 40, 41. Fundamentals of Organic Chemistry	4
Botany 2. Survey of the Plant Kingdom, *or* Zoology 1B. Chordate Zoology	4
Botany 3. Field Botany	4

Recommended:

A course in elementary statistics	3
Geography 1A. Principles of Geography	3
Geology 2. Concepts of Geology	3
Mathematics D. Intermediate Algebra	3

The Major (24 units of upper division courses which shall include not less than 6 each of botany and zoology)

Required Courses	*Units*
Biology 130. Genetics	4
Botany 107. Introduction to Plant Physiology, Biology 101. Cell Physiology, Zoology 109. Comparative Vertebrate Physiology *or* Zoology 142. Comparative Invertebrate Physiology	4

At least 12 units chosen from the following courses:

Botany 140. Principles of Bio-Ecology	3
Botany 141. Ecology of Biotic Communities	3
Botany 151. Taxonomy of Flowering Plants	3
Botany 152. Advanced Taxonomic Botany	3
Zoology 104. Entomology	4
Zoology 112. Invertebrate Zoology	4
Zoology 113A. Natural History of Vertebrates	3
Zoology 113B. Field Course in Vertebrate Zoology	3
Zoology 128. Vertebrate Physiological Cycles	2
Zoology 128C. Laboratory in Vertebrate Physiological Cycles	1
Zoology 140. Animal Ecology	4
Zoology 160. Systematic Zoology	2

The remainder of the major may be completed by selecting any upper division courses in botany and zoology or from the following list of courses in biology:

	Units
Biology 104. Microbiology	4
Biology 105. Microtechnique	3
Biology 107. Cytology	4
Biology 127. Principles of Immunology	3
Biology 131. Evolution	3
Biology 132. Advanced Genetics	3
Biology 194A–B–C–D. Group Studies for Advanced Students	1–1–1–1
Biology 198A–B–C. Readings in Biological Sciences	1–1–1
Biology 199. Independent Studies in the Biological Sciences	1–4

* Students with A or B grades in Biology 1A may substitute Biology 1A for Zoology 1A, but in this event Zoology 112 must be taken.

Botany

Preparation for the Major

Required Courses	*Units*
Botany 1. General Botany	4
Botany 2. Survey of the Plant Kingdom	4
Botany 3. Field Botany	4
Botany 6. Plant Anatomy	4
Zoology 1A. General Zoology (to be taken by the end of the sophomore year)	4
One additional course in zoology (either lower or upper division)	3–4
Chemistry 1A–1B. General Chemistry	8
Chemistry 40, 41. Fundamentals of Organic Chemistry, *or* Chemistry 112A–112B. Organic Chemistry	4–8

The Major (20 units of upper division courses)

Required Courses

Biology 130. Genetics	4
Botany 107. Introduction to Plant Physiology	4

Elective Courses:

12 units of additional upper division work in botany.

The following courses from the biology list may be included in the major:

Biology 101. Cell Physiology	4
Biology 104. Microbiology	4
Biology 105. Microtechnique	3
Biology 107. Cytology	4
Biology 131. Evolution	3
Biology 132. Advanced Genetics	3
Biology 194A–B–C–D. Group Studies for Advanced Students	1–1–1–1
Biology 195A–195B. Development of Biological Ideas	1–1
Biology 198A–B–C. Readings in Biological Sciences	1–1–1
Biology 199. Independent Studies in the Biological Sciences	1–4

Zoology

Preparation for the Major	*Units*
Zoology 1A.* General Zoology	4
Zoology 1B. Chordate Zoology	4
Botany 1. General Botany (to be taken by the end of the sophomore year)	4
One additional course in botany (either lower or upper division)	3–4
Chemistry 1A–1B. General Chemistry	8
Chemistry 40, 41. Fundamentals of Organic Chemistry, *or* Chemistry 112A–112B. Organic Chemistry	4–8

The Major (24 units of upper division work)

Required Courses

Biology 130. Genetics	4
Zoology 109. Comparative Vertebrate Physiology, *or* Zoology 142. Comparative Invertebrate Physiology	4
Zoology 112. Invertebrate Zoology (if Zoology 1A is not presented)	4

* Students with A or B grades in Biology 1A may substitute Biology 1A for Zoology 1A, but in this event Zoology 112 must be taken.

Elective Courses: 13–17 units of additional upper division work in zoology. The following courses from the biology list may be included in the major:

	Units
Biology 101. Cell Physiology	4
Biology 104. Microbiology	4
Biology 105. Microtechnique	3
Biology 107. Cytology	4
Biology 127. Principles of Immunology	3
Biology 131. Evolution	3
Biology 132. Advanced Genetics	3
Biology 194A–B–C–D. Group Studies for Advanced Students	1–1–1–1
Biology 195A–195B. Development of Biological Ideas	1–1
Biology 198A–B–C. Readings in Biological Sciences	1–1–1
Biology 199. Independent Studies in the Biological Sciences	1–4

THE MASTER OF ARTS DEGREE

In addition to the general University requirements, a candidate for the master's degree must present a minimum of 20 units of work, consisting of a minimum of 10 units of graduate credit and the rest in upper division courses not taken previously as an undergraduate. Courses are selected with the approval of the candidate's three-man committee, appointed by the department chairman; of these a maximum of 6 units may be included from graduate or upper division courses in another department. The student must submit an acceptable thesis on which he must pass an oral examination. A reading knowledge of a foreign language (German, Russian, or French) is required.

DOCTORAL PROGRAM IN BIOLOGICAL SCIENCES

Students planning to work toward the Ph.D. degree should consult the department chairman concerning the doctoral program in Biological Sciences.

TEACHING CREDENTIALS

General Secondary Credential, Teaching Major.

Candidates for this credential must have completed, by the end of a fifth year, one of the above departmental majors or its equivalent from another accredited institution. Prior to acceptance of the candidate for the fifth year, he must have earned a satisfactory rating in the Graduate Record Examination in Biology *or* have passed a Senior Comprehensive Examination in the department. In the case of majors completed in other institutions, the chairman may equate certain offerings with Santa Barbara departmental requirements, but general requirements of the department (genetics, physiology, etc.) must be completed before recommendation for the general secondary credential will be given.

The following courses or their equivalents must be included:

1. (a) Botany 1, (b) Zoology 1A or Biology 1A
2. Botany 2, Zoology 1B or Zoology 109
3. Zoology 113A or Zoology 113B
4. Zoology 104 or Zoology 112*
5. *One* of the following: Botany 3, 151, 140, 141
6. *One* of the following: Biology 104, 107, 127
7. Additional electives in the major as required to bring total units to the minimum required by state law (not less than 36)
8. A college course in chemistry and a college course in physics

* This course must be included if Biology 1A is presented in place of Zoology 1A.

The candidate must also complete 24 units of Education courses as prescribed by the Department of Education (see page 110).

General Secondary Credential, Teaching Minor

For information concerning a teaching minor for the general secondary credential, confer with the department chairman.

Biology

Lower Division Courses

1A. Fundamentals of Biology. (4) I, II. The Staff
Lecture, three hours; laboratory, three hours.
Cell theory, cell division, and heredity. Physiology of plants and animals, with emphasis on man and his place in nature. Survey of the principal groups of plants and animals.

1B. Concepts of Biology. (3) I, II. Mr. Hardin, Mr. Walters
Prerequisite: Biology 1A or Zoology 1A or Botany 1.
Topics discussed are chosen from among the following: origin and nature of life, adaptive mechanisms, control of disease, population growth, conservation and utilization of natural resources, genetics, evolution and eugenics.

30. Field Biology. (4) II. Miss Erickson
Lecture, two hours; field trips, six hours.
A study of plants and animals in the field, with emphasis on biological principles and recognition of species.

Upper Division Courses

101. Cell Physiology. (4) I. Mr. Laris
Prerequisite: Chemistry 1A–1B and 40, 41; and Biology 1A, or Zoology 1A, or Botany 1.
Structure and function on cellular and subcellular levels of organization.

104. Microbiology. (4) II. Mr. Cushing
Lecture, two hours; laboratory, six hours. Prerequisite: a course in college biology and one year of college chemistry.
Introduction to microbiology. Emphasis on the physiological approach to an understanding of the activities of microörganisms in biological, medical, and nutritional problems.

***107. Cytology.** (4) I. Mr. Walters
Lecture, two hours; laboratory, six hours. Prerequisite: Botany 1 and Zoology 1A, or consent of the instructor. Recommended: course 130.
Structure and functions of the cell, especially in relation to heredity and development.

108A–108B. Biochemistry. (4–4) I, II. ———
Lecture, three hours; laboratory, three hours. Prerequisite: Chemistry 40, 41 or 112A–112B and one laboratory course in Biology.
The chemistry and dynamic aspects of the metabolism of biologically important compounds. Stress as general biochemistry with examples from animals, plants, and microorganisms.

* Not to be given, 1961–1962.

115. Introduction to Analytical Biology. (4) II. The Staff
Lecture, three hours; laboratory, three hours.
Prerequisite: Mathematics 3A–3B, Chemistry 1A–1B, one year of physics. Second semester of any of these prerequisites may be taken concurrently.
An introduction to principles of Biology with special emphasis on quantitative and physical and chemical aspects.

127. Principles of Immunology. (3) I. Mr. Cushing
Lecture, two hours; laboratory, three hours. Prerequisite: organic chemistry (may be taken concurrently) and a year's course in the biological sciences or equivalent.
The principles of immunology are treated as basic biological phenomena. Relationships to medicine, biochemistry, genetics, embryology, and evolution.

130. Genetics. (4) I, II. Mr. Orias, Mr. Walters
Lecture, three hours; laboratory, three hours.
Prerequisite: an elementary course in biological sciences and high school algebra.
The principles of heredity and some of their applications to man, other animals, and plants.

131. Evolution. (3) II. Mr. Hardin
Prerequisite: Biology 130, or 1B with consent of instructor.
Organic evolution, with critical discussion of possible mechanisms involved.

132. Advanced Genetics. (3) II. The Staff
Prerequisite: Biology 130 or equivalent.
Topics to be selected to show the genetic aspects of such fields as microbiology, immunology, cytology, physiology, cell biology, embryology, and biometry.

***150. Marine Biology.** (3) I. ———
Prerequisite: a course in the biological sciences.
Lecture, two hours; laboratory or field, three hours.
Marine organisms and their relation to the environment; significance of this to man.

180. Public Health. (3) I, II. Mrs. Keener
Prerequisite: a course in biological sciences.
Ecologic principles of health; the causes of physical and mental diseases, communicable and organic; biologic, social, and economic factors in prevention; administrative organizations and historical background.

194A–B–C–D. Group Studies for Advanced Students. (1–1–1–1) I, II. The Staff
Oral reports by students; one discussion period. Prerequisite: consent of the instructor.
A critical review of research in selected fields of biology. Subject matter for the seminars will be selected from the following: ecology, genetics, physiology, animal behavior, systematics and speciation, embryology. Consult schedule of classes for further information.

195A–195B. Development of Biological Ideas. (1–1) I, II. Mr. Hardin
Prerequisite: upper division standing in the department and consent of the instructor.
Reading of biographies and classical original papers in biology, followed by individual reports and class discussion.

* Not to be given, 1961–1962.

198A–B–C. Readings in Biological Sciences (1–1–1) I, II. The Staff
Individual conferences one hour once every two weeks. Prerequisite: senior standing with a major in biological sciences and consent of the instructor.
Special readings designed to broaden the outlook of students and to knit into a cohesive whole the basic principles underlying the major disciplines in the field.

199. Independent Studies in the Biological Sciences. (1–4) I, II. The Staff
Hours and credit by arrangement with any member of the staff. Laboratory or field. Prerequisite: senior standing with a major in biological sciences.

Botany

Lower Division Courses

1. General Botany. (4) I, II. Mr. W. Muller and the Staff
Lecture, three hours; laboratory or field, three hours.
Fundamentals of plant science; the relation of plants to man.

2. Survey of the Plant Kingdom. (4) II. Mr. Moseley, Miss Sparling
Lecture, two hours; laboratory or field, six hours.
Morphology and life cycles of the major groups of plants, with emphasis on evolutionary relationships.

3. Field Botany. (4) II. Mr. Haller
Lecture, two hours; laboratory or field, six hours.
An introduction to the plants of the region, with emphasis on the common families, species, and the communities which they compose.

6. Plant Anatomy. (4) I. Mr. Moseley
Lecture, two hours; laboratory, six hours. Prerequisite: Botany 1 and 2.
An introduction to the anatomy of higher plants. Fundamental descriptive, comparative, and developmental phases of anatomy.

Upper Division Courses

104. Plants and Man. (3) II. The Staff
Prerequisite: Botany 1.
A course designed to emphasize the influence of plants upon man, food plants, food chains, population problems; ethnobotany; origins of economic plants, and man's influence upon plant migrations.

105. Morphology of the Nonvascular Plants. (4) II. (To be given in alternate years) Miss Sparling
Lecture, two hours; laboratory or field, six hours. Prerequisite: Botany 1 and 2.
An advanced study of the structure, life cycles, and evolutionary relationships of the algae, fungi, mosses, and liverworts.

***106. Morphology of the Vascular Plants.** (4) II. (To be given in alternate years) Mr. Moseley
Lecture, two hours; laboratory or field, six hours. Prerequisite: Botany 1 and 2.
An advanced study of the structure, life cycles, comparative anatomical features, and evolutionary relationships of the psilopsids, club mosses, horsetails, ferns, gymnosperms, and angiosperms.

* Not to be given, 1961–1962.

107. Introduction to Plant Physiology. (4) II. Mr. W. Muller
Lecture, two hours; laboratory, six hours. Prerequisite: Botany 1, Chemistry 40, 41 or equivalent, or consent of the instructor.
Functions of higher plants: photosynthesis, assimilation, plant nutrition, water relations, and hormones.

128. Plant Metabolism. (4) I. Mr. W. Muller
Lecture, two hours; laboratory, six hours. Prerequisite: Botany 107, Chemistry 40, 41, and consent of the instructor.
Plant cell metabolism, photosynthesis, respiration, fermentation, nitrogen metabolism, hormonal mechanisms and assimilation.

140. Principles of Bio-Ecology. (3) I. Mr. C. Muller
Lecture, two hours; laboratory or field, three hours. Prerequisite: Botany 1 and 2, or Zoology 1A–1B, and one other laboratory course in botany or zoology, and consent of the instructor.
The ecology of plant and animal individuals, species, and communities, with emphasis upon habitat analysis and responses.

141. Ecology of Biotic Communities. (3) II. Mr. C. Muller
Lecture, two hours; laboratory or field, three hours. Prerequisite: Botany 1 and 2, or Zoology 1A–1B, and one other laboratory course in botany or zoology, and consent of the instructor.
The theories of community origin, structure, and function and the geographic basis of community distribution.

151. Taxonomy of Flowering Plants. (3) I. Mr. Haller
Lecture, one hour; laboratory or field, six hours. Prerequisite: Botany 1 and 3, or consent of the instructor.
Field and herbarium studies of flowering plants; the characteristics and relationships of plant families; the history and principles of plant classification.

152. Advanced Taxonomic Botany. (3) II. Mr. Haller
Lecture, one hour; laboratory or field, six hours. Prerequisite: consent of the instructor. Recommended: Botany 3, Botany 151, and Biology 130.
Field studies of natural variation and hybridization in flowering plants—an attempt to detect modes of evolution from natural variation patterns.

Zoology

Lower Division Courses

1A. General Zoology. (4) I. Mr. Connell
Lecture, three hours; laboratory or field, three hours.
Structure, function, heredity, and evolution: emphasis on invertebrates.

1B. Chordate Zoology. (4) II. The Staff
Lecture, two hours; laboratory or field, six hours. Prerequisite: Zoology 1A or, with the consent of the instructor, Biology 1A.
Structure, function, development, and evolution of chordates.

25. Human Anatomy. (3) I. Dr. Bissell
Lecture, one hour; laboratory, six hours.
The structure of the organ systems based on human material and dissection of the cat.

40. Human Physiology. (3) II. Mrs. Keener
Lecture, two hours; laboratory, three hours. Prerequisite: Biology 1A and Chemistry 20 or Physics 20.
An introduction to human physiology, with emphasis upon the muscular and nervous systems.

Upper Division Courses

100. Vertebrate Embryology. (4) I. Mr. Triplett
Lecture, three hours; laboratory, three hours. Prerequisite: Zoology 1A–1B.
Principles and experimental analysis of vertebrate development based on a study of amphioxus, amphibians, chick, and pig.

103. Experimental Embryology. (4) II. Mr. Triplett
Lecture, two hours; laboratory, six hours.
Prerequisite: Biology 130; Zoology 100; Biology 101 or Zoology 109 or Zoology 142; and an introductory course in organic chemistry, and the consent of the instructor.
Analysis of factors governing the growth and differentiation of cells, and the organization of cell populations. Laboratory emphasis on experimental procedures in the study of development using echinoderm, amphibian and avian embryos.

104. Entomology. (4) II. Mr. Adams
Lecture, two hours; laboratory or field, six hours. Prerequisite: Zoology 1A.
An introduction to the study of insects, their classification, structure, physiology, and ecology.

106. Comparative Anatomy of Vertebrates. (4) I. Mrs. DeWolfe
Lecture, two hours; laboratory, six hours. One field trip. Prerequisite: Zoology 1A–1B.
The evolution and ramification of vertebrate structure, with emphasis upon function. Laboratory is limited to comparative morphology, but lectures stress physiology of the chief environmental adaptations.

109. Comparative Vertebrate Physiology. (4) II. Mr. Laris
Lecture, three hours; laboratory, three hours. Prerequisite: Zoology 1A, 1B, Chemistry 1A, 1B or Chemistry 20 and 21.
A survey of the physiology of organ systems of the vertebrates with emphasis on mechanisms of control.

111. General Parasitology. (4) I. Mr. Noble
Lecture, two hours; laboratory, six hours. Prerequisite: Zoology 1A–1B.
Biological aspects of parasitism: animal parasites of man and of other animals.

112. Invertebrate Zoology. (4) I. Mr. Davenport
Lecture, two hours; laboratory or field, six hours. Prerequisite: Zoology 1A, or, with the consent of the instructor, Biology 1A.
An introduction to the classification, structure, habits, and ecology of invertebrate animals, with emphasis on the marine fauna of the Santa Barbara area.

113A. Natural History of Vertebrates. (3) I. Miss Erickson
Lecture, three hours; one field trip. Prerequisite: a laboratory course in biological sciences.
The interrelations of land vertebrates with their environment; behavior, annual cycles, population dynamics, and the bearing of these on distribution and evolution.

113B. Field Course in Vertebrate Zoology. (3) II. Miss Erickson
Lecture, one hour; field trips, six hours.
Identification of mammals, birds, reptiles, and amphibians; methods of studying behavior, and habitat relations; systematics.

***128. Vertebrate Physiological Cycles.** (2) I. Mrs. DeWolfe
Lecture, two hours. Prerequisite: Zoology 1B. Recommended: Zoology 109 or Zoology 113A, passed or taken concurrently.
The physiological concomitants of annual cycles in vertebrates and environmental factors of dynamic importance. Analysis of seasonal changes in the endocrine and reproductive systems of representative native fishes, amphibians, reptiles, birds and mammals.

***128C. Laboratory in Vertebrate Physiological Cycles.** (1) II. Mrs. DeWolfe
Laboratory, three hours. Prerequisite: Zoology 128 or consent of instructor.
Introduction to techniques for analyzing seasonal physiological cycles in representative local native vertebrates. Quantitative determinations of changes in structure and function of organs involved in reproduction. Analysis of molt and fat cycles.

140. Animal Ecology. (4) II. Mr. Connell
Lecture, two hours; laboratory or field, six hours. Prerequisite: Zoology 1A or Biology 1A.
The relation of animals to their physical and biological environment. Emphasis to be placed on the processes affecting the stability and fluctuations in populations and communities of animals.

142. Comparative Invertebrate Physiology. (4) II. The Staff
Lecture, two hours; laboratory, six hours. Prerequisite: Zoology 112, Chemistry 1A–1B.
A comparison of the physiology of the organ systems of the invertebrate phyla.

160. Systematic Zoology. (2) I. Mr. Adams
Lecture, two hours. Prerequisite: One of the following: Zoology 104, 112, 113B, Botany 3, 151, or the consent of the instructor.
Taxonomic procedures, including concepts of speciation, biometry, bibliographic methods, and the rules of nomenclature.

Graduate Courses

Biology 294A–B–C–D. Group Studies. (1–1–1–1) I, II. The Staff

Biology 298. Special Studies. (1–4) I, II. The Staff

Biology 299. Research in the Biological Sciences. (1–6) I, II. The Staff

Related Courses in Other Departments

Colloquium 102. The Concept of Evolution: Scientific, Social, and Philosophical Implications. (3) I, II.
Mr. Girvetz, Mr. Hardin, Mr. Walters

Education Sc 190. Natural Science for Education. (3) I, II. Mr. Wells

Education SB 190. Teaching Procedures in the Biological Sciences. (2) I, II. Mr. Wells

Education SB 192A–192B. Student Teaching: Biological Sciences. (2–2) I, II. Mr. Wells

Philosophy 100. Science, Folklore, and Philosophy. (3) I. Mr. Girvetz

Philosophy 124. Philosophy of Science. (3) II. Mr. Wilkinson

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* Not to be given, 1961–1962.

CHEMISTRY

Ernest L. Bickerdike, Ph.D., *Professor of Chemistry.*
Hazel W. Severy, M.A., D.Sci.O., *Professor of Chemistry, Emeritus.*
Glenn H. Miller, Ph.D., *Associate Professor of Chemistry (Chairman of the Department).*
James W. Curry, Ph.D., *Assistant Professor of Chemistry.*
*Robert H. DeWolfe, Ph.D., *Assistant Professor of Chemistry.*
Sidney M. Goodwin, Ph.D., *Assistant Professor of Chemistry.*
H. Leroy Nyquist, Ph.D., *Assistant Professor of Chemistry.*
Glyn O. Pritchard, Ph.D., *Assistant Professor of Chemistry.*
Clifford A. Neville, Ph.C., *Associate in Chemistry.*
Andrew Recsei, Ph.D., *Associate in Chemistry.*

The program leading to the bachelor's degree in chemistry meets the standards recommended by the American Chemical Society for professional training in chemistry. High school students should note that the preparation for this degree is simplified if their high school programs include chemistry, four years of mathematics, and courses in either German or Russian.

Students interested in chemical engineering should major in chemistry.

Counseling. Each entering student will be assigned an adviser who may be consulted on any matter pertaining to the student's University work. The adviser must approve the student's program each semester.

Preparation for the Major

Required Courses	*Units*
Chemistry 1A–1B. General Chemistry	8
Chemistry 5A–5B. Quantitative Analysis and Chemical Equilibrium	8
Physics 4A–B–C. General Physics	12
German or Russian	8–9
Mathematics 3A–3B, 4A	9

Recommended Courses

Mathematics 119A	3

The Major (24 units of upper division courses)
Required Courses

Chemistry 110A–110B. Physical Chemistry	6
Chemistry 111. Physical Chemistry Laboratory	2
Chemistry 112A–112B. Organic Chemistry	8
Chemistry 184. Scientific Literature	1

An additional 7 units from the following list. One course involving laboratory work in organic chemistry must be included:

	Units
Chemistry 103. Theoretical Organic Chemistry	3
Chemistry 104. Advanced Inorganic Chemistry	3
Chemistry 106. Organic Analytical Chemistry	3
Chemistry 107. Organic Preparations	3
Chemistry 113. Analytical Microchemistry	2
Chemistry 199. Independent Studies in Chemistry	1–4

The Master of Arts Degree. In conjunction with the general university requirements governing the work for the Master of Arts, the following are specific requirements for the degree in chemistry.

* Absent on leave, 1961–1962.

Each student shall take courses, including research, comprising 20 units of graduate work in chemistry, plus such undergraduate courses as shall be determined by the adviser on the basis of examinations. In addition, candidates must demonstrate a reading knowledge of German, French, or Russian, and present a thesis. Unit distribution of courses will be approximately as follows:

	Units
Graduate courses (200 series)	6
Seminar (200 series)	2
Research (200 series)	12
	20 units

The Credential Program

The General Secondary Credential, Teaching Major

Candidates for the general secondary credential must complete a major in chemistry. In addition, they must have at least one course in biological science. For education courses that are required see page 110.

The General Secondary Credential, Teaching Minor

For information concerning a teaching minor for the general secondary credential, refer to the general requirements for such minors on pages 111 and 112 and confer with the department chairman.

Related Curriculum: Physical Science

Chemistry may be offered as one area of concentration for partially fulfilling the requirements of the interdepartmental major in physical science. See page 185 for details.

An interdepartmental minor in physical science is available. Consult the adviser for the physical science major for details.

Chemistry

Lower Division Courses

1A–1B. General Chemistry. (4–4) Yr. The Staff

Lecture, three hours; laboratory, three hours. For students training for the scientific professions. Chemical principles; chemical calculations; descriptive inorganic chemistry; qualitative analysis.

5A–5B. Quantitative Analysis and Chemical Equilibrium. (4–4) Yr. Mr. Bickerdike

Lecture, two hours; laboratory, six hours. Prerequisite: Chemistry 1B.

Theory and technique of analytical chemistry, emphasizing the application of chemical equilibrium. Some instrumental methods are introduced in the second semester.

20. Introductory Chemistry. (3) I, II. The Staff

Lecture, three hours.

General Education course in theoretical and descriptive inorganic chemistry especially designed for the non-science student.

21. Laboratory in Introductory Chemistry. (1) I, II. The Staff

Laboratory, three hours.

Experiments selected to best illustrate the nature of chemistry and the methods of chemical discovery. To be taken concurrently with or following Chemistry 20. Not for science majors.

40. Fundamentals of Organic Chemistry. (3) I, II. The Staff
Lecture, three hours.
General Education course in basic organic chemistry: chemical bonding, fats, carbohydrates, proteins, drugs, dyes and plastics; their reactions and applications. Recommended course for students with high school chemistry background. Not for physical science majors.

41. Laboratory in Organic Chemistry. (1) I, II. The Staff
Laboratory, three hours. To be taken concurrently with or after Chemistry 40.
Laboratory experience in preparation and properties of organic compounds. Not for physical science majors.

Upper Division Courses

***101. Chemistry in the Modern World.** (3) I, II. Mr. Miller and Staff
Lecture, 3 hours.
Selected topics in the fields of inorganic, organic, and bio-chemistry. Designed for the non-major student with special emphasis on the important aspects of modern chemistry.

103. Theoretical Organic Chemistry. (3) II.
Mr. Curry, Mr. DeWolfe, Miss Goodwin, Mr. Nyquist
Lecture, three hours. Prerequisite: Chemistry 112A–112B, or consent of the instructor, Chemistry 40, 41.
Mechanisms of organic reactions; relationship of structure to physical and chemical properties of organic compounds.

104. Advanced Inorganic Chemistry. (3) II Mr. Bickerdike
Lecture, three hours. Prerequisite: Chemistry 5A.
Atomic structure; chemical bonding; nuclear reactions; the less common elements.

106. Organic Analytical Chemistry. (3) I.
Mr. Curry, Mr. DeWolfe, Miss Goodwin, Mr. Nyquist
Lecture, one hour; laboratory, six hours. Prerequisite: Chemistry 112A–112B.
Qualitative analysis of pure compounds and of mixtures; discussion of qualitative and quantitative methods.

***107. Organic Preparations.** (3) I.
Mr. Curry, Mr. DeWolfe, Miss Goodwin, Mr. Nyquist
Lecture, one hour; laboratory, six hours.
Selected laboratory syntheses using modern reactions and techniques. Study of such topics as the Grignard, enolate, and Diels-Alder syntheses.

110A–110B. Physical Chemistry. (3–3) Yr. Mr. Miller, Mr. Pritchard
Lecture, three hours. Prerequisite: Chemistry 5A, Mathematics 4A, Physics 2A–2B.
Physicochemical behavior of substances; elementary thermodynamics; electrochemistry; chemical kinetics; atomic structure.

111. Physical Chemistry Laboratory. (2) II. Mr. Miller, Mr. Pritchard
Laboratory, six hours. Prerequisite: Chemistry 110A–110B (may be taken concurrently).
The application of physical methods to chemical investigation.

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* Not to be given, 1961–1962.

112A–112B. Organic Chemistry. (4–4) Yr.
Mr. Curry, Mr. DeWolfe, Miss Goodwin, Mr. Nyquist
Lecture, three hours; laboratory, three hours. Prerequisite: Chemistry 1A–1B, 5A or consent of instructor. Primarily for majors in physical and biological sciences.
Carbon compounds; the aliphatic, aromatic, and heterocyclic series. The laboratory work consists of the preparation and study of the properties of typical members of each series.

113. Analytical Microchemistry. (2) II. Mr. Bickerdike
Laboratory, six hours. Prerequisite: Chemistry 5A.
Chemical microscopy; classical and instrumental analytical techniques on the semi-micro and micro scales.

120. Laboratory Techniques in Chemistry. (1) I. Mr. Miller
Laboratory, three hours.
Elementary glass working. Construction and maintenance of apparatus.

184. Scientific Literature. (1) II. The Staff
Lecture, one hour. Required of majors in chemistry.

199. Independent Studies in Chemistry. (1–4) I, II. The Staff
Directed individual study, normally experimental, open to qualified seniors in the Department of Chemistry.

Graduate Courses

203A–203B. Advanced Organic Chemistry. (3–3) I or II. The Staff
Prerequisite: consent of the instructor.

204. Advanced Inorganic Chemistry. (3) I or II. The Staff
Prerequisite: consent of the instructor.

210. Advanced Physical Chemistry. (3) I or II. The Staff
Prerequisite: consent of the instructor.

260A–260B. Seminar in Chemistry. (1–1) I, II. The Staff
Prerequisite: consent of the instructor.

299. Research in Chemistry. (3–6) I, II. The Staff
Prerequisite: consent of the instructor.

CLASSICS

In 1960–1961 the program in classics was inaugurated with elementary Latin and Greek language courses, and upper division courses offered in translation. In accordance with plans for further development of the program, the following offerings will be available during 1961–1962. Those interested in classical studies should apply to the Department of English for further information.

Greek

Lower Division Courses

1. Elementary Greek. (4) I. ———

2. Elementary Greek (continuation of 1). (4) II. ———

Upper Division Courses

100. Readings in Greek Literature. (3) I. ———
Prerequisite: Greek 1 and 2 or equivalent.

101. Readings in Greek Literature. (3) II. ———
Prerequisite: Greek 1 and 2 or equivalent.

Latin

Lower Division Courses

1. Elementary Latin. (4) I. ———

2. Elementary Latin (continuation of 1). (4) II. ———

3. Intermediate Latin. (4) I. ———

4. Intermediate Latin. (4) II. ———
Prerequisite: Latin 3 or equivalent.

Foreign Literature in English Translation

(Course for which no knowledge of a foreign language is required)

Upper Division Courses

Classics 150A–150B. Greek and Latin Literature in Translation.
(3–3) I, II. ———
Selected readings in English translation and discussion of the great works of classical literature. Course 150A will emphasize Epic, History and Philosophy. 150B will emphasize Comedy and Tragedy.

EAST ASIAN STUDIES

Committee in Charge

D. Mackenzie Brown, Ph.D., *Professor of Political Science.*
Howard Fenton, M.A., *Associate Professor of Art.*
Herbert Fingarette, *Associate Professor of Philosophy.*
Immanuel C. Y. Hsu, Ph.D., *Associate Professor of History (Chairman of the Committee).*

The major in East Asian studies is an interdepartmental major designed for students planning graduate study or professional careers in this area. Emphasis is placed upon the cultural background rather than upon technical training. The major is therefore intended also to serve the needs of students desiring a general education with emphasis upon this important cultural area of the world. These East Asian studies include South Asia, with emphasis upon India, Pakistan, and Ceylon; and the Far East, with emphasis upon China, Japan, Korea, and the Pacific.

Preparation for the Major	*Units*
History 19	3
Additional 9 units selected from:	
Anthropology 1, 2	3–3
Economics 1A–1B	3–3
Geography 1B	3
History 4A–4B	3–3
Political Science 50	3
Sociology 1	3

The Major (27 units of upper division courses)

The program of courses is to be made out by the student in consultation with the committee in charge. Each program will be designed to meet the needs of the individual student in accord with his educational objectives.

Required Courses

East Asian Studies 187. East Asian Thought. (3) I, II. Mr. Brown
The social, religious, and cultural concepts of the Far East (Confucianism, Taoism, Shinto) and South Asia (Hinduism, Buddhism, Jainism). Their effects upon individuals and institutions.

East Asian Studies 197. Correlated Studies. (1–6) I, II. Mr. Brown, Mr. Hsu
Six units are required, normally 3 each semester.

In addition 18 units must be selected from the following list (descriptions of these courses may be found under appropriate departmental headings):

Anthropology 139. Peoples and Cultures of Africa and Asia.
Anthropology 147. Peoples and Cultures of the Pacific.
Art 102. Oriental Art.
History 180. Studies in Far Eastern History.
History 184. History of China.
History 185. History of Japan.
History 186A–186B. Modern Far East.
History 201. Advanced Studies in the Sources and General Literature of the Several Fields of History.
History 290. Seminar in U. S. Relations with the Far East.
Philosophy 123. Studies in Asian Philosophy.
Political Science 136. Political Development of the Far East.
Political Science 137. Political Development of South Asia.

East Asian Studies may be elected as a minor. In this case the student will take 12 instead of 24 units in upper division courses mentioned above.

ECONOMICS

J. Frederick Halterman, Ph.D., *Professor of Economics (Chairman of the Department).*
William F. Kennedy, Ph.D., *Professor of Economics.*
Mortimer Andron, Ph.D., *Associate Professor of Economics.*
Walter J. Mead, Ph.D., *Associate Professor of Economics.*
Alec P. Alexander, Ph.D., *Assistant Professor of Economics.*
Jerzy F. Karcz, Ph.D., *Assistant Professor of Economics.*

The two majors offered in the department are designed for students interested in developing an understanding of the operation of our economy and the operation of the business firm. The major in economics leads to careers in government or industry, to graduate study in the field of economics, to professional careers as economists, and to general cultural development. The major in business economics is designed for students primarily interested in entering business as a career, and focuses attention on the individual firm and its relations to the economy. The majors also offer valuable preparation for such careers as law and journalism.

Preparation for the Majors

Required Courses	*Units*
Economics 1A–1B. Principles of Economics	3–3
Economics 2. Elementary Statistics	3
Economics 6A–6B. Principles of Accounting	3–3
Mathematics 32. Introduction to Calculus	3

The Majors

Required: 24 units of upper division courses in economics,* including junior and senior sequences to be taken in the following order:

Junior year—Economics 100A–100B
Senior year—Economics 103

Economics

Select an additional 15 units from upper division economics courses (not more than 3 of these units to be from Group A listed under Business Economics).

Business Economics

In addition to the junior and senior year sequences listed above, select 15 units as follows:

1. Choose three courses (9 units)

Economics 102. Managerial Economics
Economics 118. Legal Analysis for Business Management
Economics 123. Marketing
Economics 124. Business Ethics and Social Responsibility
Economics 134. Corporation Finance

2. Choose two additional courses (6 units) in upper division economics.

The Master of Arts Degree. In conjunction with the general University requirements governing the work for the degree of Master of Arts, the following are specific requirements in economics:

* Economics 106 and 109 do not count toward the 24-unit upper division requirement for the major.

1. Candidates must complete at least 24 units of course work plus a thesis.
2. At least 12 of the units of course work must be taken in strictly graduate courses in economics. A maximum of 4 of these units may be in 299 courses representing credit for research underlying the thesis. The remaining units making up the total of 24 required may be chosen from additional graduate courses or from undergraduate courses numbered 100 or above. With the approval of the student's adviser, a maximum of 6 of these remaining units may be included from graduate or upper division courses in another department.
3. The Master of Arts program is open only to students who wish to write a thesis in the fields of (a) economic theory, (b) American economic history, or (c) history of economic thought.
4. Before certifying a student for formal advancement to candidacy, the department reserves the right to satisfy itself as to the candidate's proficiency by means of special written examinations.

Teaching Credentials, Teaching Majors, Teaching Minors. The manner in which the various teaching credentials may be obtained is governed by rules laid down by the California State Board of Education. Requirements for majors and minors in the *social studies* for general secondary and junior high school teaching credentials are listed on pages 200 and 201 of this bulletin, under the heading of "Social Sciences."

Combination Social Sciences Major

Students interested in obtaining a major in the combined social sciences, see listing under "Social Sciences," page 200 of this bulletin.

Economics

Lower Division Courses

1A–1B. Principles of Economics. (3–3) Yr. Mr. Andron, Mr. Kennedy
Prerequisite: Economics 1A is prerequisite to Economics 1B. Not open to freshmen.

2. Elementary Statistics. (3) I, II. Mr. Alexander
Two lectures and one two-hour laboratory section weekly. Prerequisite: Mathematics 32 or 3A.
Collection, presentation, and interpretation of quantitative economic data; averages, dispersion, index numbers, time series analysis, and simple correlation.

6A–6B. Principles of Accounting. (3–3) Yr. Mr. Halterman
Two lectures and one two-hour laboratory section weekly. Prerequisite: Economics 6A is prerequisite to Economics 6B. Open to freshmen.
Structure of modern accounting practice; elementary theories and problems related to (6A) the individual owner, (6B) partnership, and corporate type of business organizations.

***10. Economic History** (3) I. _____
Development of the modern enterprise or capitalist economy in its North Atlantic setting, with emphasis on institutions and practices.

Upper Division Courses

Prerequisite to all upper division courses: Economics 1A–1B, Economics 109, or consent of the instructor.

* Not to be given, 1961–1962.

100A–100B. Economic Theory. (3–3) Yr. Mr. Andron, Mr. Karcz
Prerequisite: Economics 100A is prerequisite to Economics 100B.
100A. Value and distribution under competition, imperfect competition, and monopoly.
100B. Factors that determine output, national income, and employment.

101. History of Economic Thought. (3) I. Mr. Kennedy
Economic ideas from the mercantilists to the present.

102. Managerial Economics. (3) II. Mr. Alexander
Prerequisite: Economics 100A–100B.
Advanced analysis of the theory and practice of decision-making in business firms, utilizing the concepts and techniques of managerial economics.

103. Business Fluctuations. (3) II. Mr. Alexander, Mr. Karcz
Prerequisite: Economics 2, 100A–100B. Recommended for seniors only.
Theories of economic disturbance and the interrelation of the economic processes.

104. Economic Policy. (3) I. Mr. Andron
An analysis of contemporary economic policies and problems.

106. Accounting Concepts. (3) II. Mr. Halterman
Prerequisite: upper division standing.
Not open to those who have credit for Economics 6A–6B. Concepts basic to accounting theory and practice as related to the various types of business organization, cost accounting, budgets, and analysis of financial statements.

107. Comparative Economic Systems. (3) I. Mr. Karcz
Socialism, fascism, and capitalism contrasted with regard to making economic decisions, organization of production, mechanism of exchange, banking and investment, distribution of income, status of labor, international trade, and public finance.

109. Introduction to Economics. (3) I, II. Mr. Alexander, Mr. Mead
Not open to those who have taken Economics 1A–1B. Serves as a prerequisite for upper division economics courses.
Intensive study of economic principles.

***113. Economic and Industrial History of the United States.** (3) II. Mr. Halterman
The economic development of the United States from the period of settlement to the present time, and especially since 1865.

114. Economic Development. (3) II. Mr. Karcz
Prerequisite: Economics 1A, 1B.
Theories of economic development. Problems of accelerated development in poor countries and of maintaining development in rich countries.

116. Industrial Organization and Public Policy. (3) I. Mr. Mead
Governmental policy of maintaining competition to control economic behavior.

117. The Soviet Economy. (3) II. Mr. Karcz
An analytical and statistical survey of the organization and operating principles of the Soviet economy in the light of geographic and historical backgrounds.

118. Legal Analysis for Business Management. (3) I. ———
The essentials of the law of contracts, agency, bailments, sales, and negotiable instruments.

* Not to be given, 1961–1962.

123. Marketing. (3) I. Mr. Kennedy
The principal marketing methods, institutions, and practices considered from the viewpoint of the consumer, the middleman, and the manufacturer.

124. Business Ethics and Social Responsibility. (3) II. Mr. Kennedy
Prerequisite: Economics 1A–1B.
Application of ethics to the decisions of economic life; the responsibilities of individuals and economic organizations.

***130. Public Finance.** (3) I. ———
Raising and spending of public money; principles, incidence, problems, and economic effects of taxation.

134. Corporation Finance. (3) II. Mr. Mead
Prerequisite: Economics 6A–6B, 106 or consent of the instructor.
Instruments and methods of financing and controlling the modern corporation and the effect of these on society, the corporation, and its stockholders.

135. Money and Credit. (3) I. Mr. Mead
Commercial banking, Federal Reserve System, credit creation and monetary theory.

143. Mathematical Economics. (3) I Mr. Alexander
Prerequisite: Mathematics 32 or 3A and Economics 100A–100B.
Elements of matrix algebra and simple applications in the fields of linear programming, input-output, and game theory; optimization problems through calculus.

150. Labor Economics. (3) II. Mr. Halterman
Factors contributing to American labor problems, and the attempts on the part of those concerned to obtain harmony.

152. History of the Labor Movement. (3) I. Mr. Halterman
Historical perspective of the American and foreign labor movements, their organizational structures, ideologies, policies, and practices.

175. Government and Business. (3) II. Mr. Kennedy
Industries in which competition has been supplanted by positive public control; an investigation of the methods and problems of regulation and of government ownership and operation.

180. International Trade. (3) I. Mr. Karcz
An analysis both historical and contemporary of the foreign trade mechanism with emphasis on the impediments to trade, international finance, and modern equilibrium theory.

199. Independent Studies in Economics. (1–4) I, II. The Staff
Admission by special arrangement.

Graduate Courses

200A. Price and Distribution Theory. (3) I. Mr. Andron
Micro-economics: the behavior of firms and households, and the determination of prices and resource allocation.

200B. National Income Theory. (3) II. Mr. Alexander
Prerequisite: Economics 100B.
Macro-economics: theory of income and employment.

* Not to be given, 1961–1962.

201. History of Economic Thought. (3) II. Mr. Kennedy

213. American Economic History. (3) I. Mr. Halterman

235. Advanced Money and Banking. (3) II. Mr. Mead
Prerequisite: graduate standing and Economics 135.
Analysis of banking institutions and money, monetary theory, and monetary policy.

298. Special Studies. (1–4) I, II. The Staff

299. Directed Research. (2–4) I, II. The Staff
Prerequisite: graduate standing and consent of the instructor.

EDUCATION

*Loretta M. Byers, Ed.D., *Professor of Education.*
Glenn W. Durflinger, Ed.D., *Professor of Education.*
Edith M. Leonard, M.A., *Professor of Education.*
Lester B. Sands, Ed.D., *Professor of Education.*
Kermit A. Seefeld, Ed.D., *Professor of Education.*
———, *Professor of Education.*
———, *Professor of Education.*
———, *Professor of Education.*
Charles L. Jacobs, Ph.D., *Professor of Education, Emeritus.*
**Elizabeth H. Irish, Ed.D., *Associate Professor of Education.*
Dorothy D. VanDeman, M.A., *Associate Professor of Education.*
John A. R. Wilson, Ed.D., *Associate Professor of Education.*
———, *Associate Professor of Education.*
———, *Associate Professor of Education.*
Elsie A. Pond, M.A., *Associate Professor of Education, Emeritus.*
John H. Chilcott, Ph.D., *Assistant Professor of Education.*
Beryl R. Dillman, Ed.D., *Assistant Professor of Education.*
Mildred C. Robeck, Ph.D., *Assistant Professor of Education.*
Alvin E. Robinson, Ed.D., *Assistant Professor of Education.*
Edwin J. Swineford, Ed.D., *Assistant Professor of Education.*
Alma V. Williams, Ph.D., *Assistant Professor of Education.*
———, *Assistant Professor of Education.*
Lelon C. Capps, Ph.D., *Acting Assistant Professor of Education.*
———, *Acting Assistant Professor of Education.*

Teacher Education

John A. R. Wilson, Ed.D., *Director of Student Teaching.*
Alvin E. Robinson, Ed.D., *Adviser, Elementary Education.*
Elizabeth H. Irish, Ed.D., *Chairman, Coordinating Committee for Teacher Education.*
Edith M. Leonard, M.A., *Adviser, Early Childhood Education.*
Edwin J. Swineford, Ed.D., *Adviser, Junior High Education.*
Alvin E. Robinson, Ed.D., *Adviser, Provisional Credentials.*

Departmental Supervisors

Marian H. Anderson, M.S., *Assistant Professor of Physical Education.*
Robert Beachboard, Docteur de l'Universite de Paris, *Associate Professor of French.*
Loretta M. Byers, Ed.D., *Professor of Education (Elementary).*
Catherine C. Campbell, M.A., *Associate Professor of Art.*
Lelon C. Capps, Ph.D., *Acting Assistant Professor of Education (Elementary).*
John H. Chilcott, Ph.D., *Assistant Professor of Education (Junior High).*
Van A. Christy, Ph.D., *Professor of Music.*
Frances M. Colville, Ph.D., *Assistant Professor of Physical Education.*
Beryl R. Dillman, Ed.D., *Assistant Professor of Education (General Secondary).*
Maurice E. Faulkner, Ph.D., *Professor of Music.*
Arthur J. Gallon, Ed.D., *Associate Professor of Physical Education.*
Genevieve W. Haight, M.A., *Associate Professor of English.*

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* Absent on leave, fall, 1961.
** Absent on leave, spring, 1962.

Willard M. Hammer, M.Ed., *Lecturer in Physical Education.*
James H. High, Ph.D., *Assistant Professor of Social Science.*
Jean L. Hodgkins, Ed.D., *Professor of Physical Education.*
Elizabeth H. Irish, Ed.D., *Associate Professor of Education (Elementary).*
Joseph E. Lantagne, Ed.D., *Professor of Physical Education.*
Edith M. Leonard, M.A., *Professor of Education (Early Childhood).*
Lynne C. Monroe, Ed.D., *Professor of Industrial Arts.*
Theodore I. Murguía, Ph.D., *Instructor in Spanish.*
Ralph K. Nair, Ed.D., *Professor of Industrial Arts.*
Charlene D. Palmer, Ed.D., *Assistant Professor of Home Economics.*
Mildred C. Robeck, Ph.D., *Assistant Professor of Education (Elementary).*
Alvin E. Robinson, Ed.D., *Assistant Professor of Education (Elementary).*
Rene H. Rochelle, Ph.D., *Assistant Professor of Physical Education.*
Edwin R. Schoell, Ph.D., *Associate Professor of Speech.*
Kermit A. Seefeld, Ed.D., *Professor of Education.*
Elvera Skubic, Ph.D., *Associate Professor of Physical Education.*
Edwin J. Swineford, Ed.D., *Assistant Professor of Education (Junior High).*
Dorothy D. VanDeman, M.A., *Associate Professor of Education (Early Childhood).*
Harrington Wells, M.A., *Associate Professor of Science Education.*
Dorothy Westra, M.S.M., *Assistant Professor of Music.*
Alma V. Williams, Ph.D., *Assistant Professor of Education (Elementary).*
Wilton M. Wilton, Ed.D., *Associate Professor of Physical Education.*
Lois Fae Witte, Pe.D., *Assistant Professor of Physical Education.*

Major in Education

This major leads to a Bachelor of Arts degree. The four-year program is divided into three areas: general education, core subjects in the major field, and additional requirements for the completion of the kindergarten-primary, general elementary or general junior high school teaching credentials. A non-credential major is available for students who wish to specialize in the field of education, but who do not wish to complete credential requirements. A minor in education may be approved for students with a major in another department.

Every student majoring in education must complete approximately 50 units in general education as a cultural background for professional study. The general education program consists of specified courses in: art, biological science, English and speech, industrial arts, music, physical education, physical science, psychology, and social science. Additional general education up to 15 units is usually elected by students majoring in education.

Core for Education Majors

A uniform core of courses in the field of education is required of all students majoring in this department for credentials. A total of 30–32 units is to be selected from the following courses:

	Units
Education 57. Introduction to the Study of Education	
or	
Education 170. Secondary Education	3
Education 101. History of Education	
or	
Education 102. History of American Education	
or	
Education 105. Education in Foreign Countries	
or	

	Units
Education 106. Philosophy of Education	
or	
Education 180. Educational Sociology	2
Education 110. Educational Psychology	3
Education 111. Child Growth and Development	
or	
Education 112. Growth and Development of the Adolescent	2
or	
Psychology 113. Psychology of Adolescence	2 or 3
Education 117. Pupil Personnel and Counseling (Junior High)	2
Education 119. Measurement and Evaluation in Education	
or	
Education 120. Measurement and Evaluation in the Secondary School	
or	
Education 126. Parent Counseling	3 or 2
Education 147. Audio-Visual-Radio Education	2
Education 190. Teaching Procedure	4, 5 or 6
Education 192. Student Teaching	8 or 10
Education 193. Teaching Problems	2

Credential Programs

Credentials for service in public schools in California are issued by the Commission of Credentials of the State Board of Education upon recommendation of institutions authorized for teacher training. There are certain acceptable standards which must be met by candidates for teaching credentials. These include such qualifications as intelligence, scholarship, aptitude for teaching, physical fitness, and personality.

Teaching credentials issued on recommendations of this University include: (a) kindergarten-primary; (b) elementary; (c) junior high school; (d) special secondary, entitling the holder to teach in a specified field in any and all grades in the schools; (e) general secondary, authorizing the holder to serve as a teacher in grades seven through fourteen.

The preparation for the major in the special secondary credential offered in this institution in art, homemaking, industrial arts, music, and physical education, is obtained through the respective department. For further information, including the credential to teach exceptional children (speech correction), see descriptions under the departments.

The general secondary program is part of the graduate program of Santa Barbara, and is administered under faculty regulations governing graduate study. For information, consult the section of this bulletin on The Graduate Program and descriptions under departments.

The Department of Education provides the professional education courses and directs the student teaching program for all credentials.

KINDERGARTEN-PRIMARY CREDENTIAL

This course of study is designed to supply a thorough background for preparing teachers of young children, ages two to ten, and entitles the holder to teach in kindergarten and grades one through three.

General Requirements. Education majors wishing to specialize in early childhood education must satisfy the requirements listed on pages 65 and 66 including Art 1, History 39, Physical Education 1–13, 1–23, and an upper division English or speech elective. Additional courses required by the department include Music 31A–31B, 32A–32B, 40A–40B, Industrial Arts 45, Health

Education 48, Home Economics 10, and controlled electives from English, history, science, or the social sciences.

Preparation for the Major. Education 57.

Requirements for the Major. In addition to the Core for Education Majors listed on pages 106 and 107, the following courses are required:

	Units
Education 122. Dramatics, Music, and Storytelling in Early Childhood	3
Education MEC 190. Early Childhood Music Education	2
Education EC 191. Observation, Participation, and Planning	3
Industrial Arts 145. Integrated Craft Activities for Elementary Schools	2

Student Teaching. See pages 110 and 111.

General Tests. See pages 67 and 111 for required tests.

Special Tests.

1. Before enrolling in any music course, all students must take a standard native-capacity test, and a test in ability to carry a tune. These are scheduled at the beginning of each semester and must be taken at the time announced.

2. Ability in piano must be demonstrated by passing a final proficiency examination before assignment to directed teaching. The specific piano courses for majors in early childhood education to prepare students to meet these requirements are Music 31A–31B and Music 32A–32B. The student may enter directly into any of the above piano courses he is prepared to undertake, or, if he has sufficient preparation in piano to pass a proficiency examination, he may omit these piano courses. In either event he may substitute general electives for the unit requirements.

Minor. No minor is required. However, a minor in music is strongly recommended. See requirements for Early Childhood Education Music Minor on page 166. No credit will be given for courses designed to remove deficiencies in preparation for this minor.

GENERAL ELEMENTARY CREDENTIAL

The general elementary credential entitles the holder to teach grades one through eight.

General Requirements. Education majors wishing to specialize in elementary education must satisfy the requirements listed on pages 65 and 66 including Art 31, History 39, Physical Education 1–16A, and English 189. Additional courses required by the department include Geography 1A or 1B, Music 40A–40B, Home Economics 10, Health Education 48 (women), and Industrial Arts 45.

Preparation for the Major. Education 57.

Requirements for the Major. In addition to the Core for Education Majors listed on pages 106 and 107, the following courses are required:

	Units
Education Ar 190. Arithmetic Procedures for the Elementary School	3
Education ME 190. Elementary Music Education	2
Education Sc 190. Natural Science for Education *or* Education PSc. 190. Physical Science and Education	3
Art 195. Art for Elementary Schools	2
Industrial Arts 145. Integrated Craft Activities for Elementary Schools	2
Physical Education 138. Physical Education in the Elementary School	3

Education El 190, Procedure, and Education Ar 190, Arithmetic Procedure, must be completed before engaging in student teaching. No student on proba-

tion is permitted to register for these procedures courses. Eight units in student teaching are required in the senior year. Students carrying 4 to 6 units of student teaching in any semester may be required to reserve a half-day for that student teaching. Students receiving a grade lower than C in student teaching will not be recommended for graduation or credential. See under Scholarship (page 110). Each student expecting to pursue directed teaching is required to file an application not later than the end of the first six weeks of the semester immediately preceding a student teaching assignment, and be present at the opening of the school term where the student teaching assignment is made.

Student Teaching. See pages 110 and 111.

General Tests. See pages 67 and 111.

Special Test. Students in Music 40A are required to take a test in ability to carry a tune and, in addition, pass a standard native-capacity test. If the test is passed satisfactorily, the student may enter the required courses in music. If the test is not passed satisfactorily, the student is required to take Music 15 only, and is not recommended to teach music.

Minor. Candidates are not required to complete a minor. However, minors in art, music, physical education, industrial arts, and speech correction are very valuable for teachers and it is recommended that students who can do so fulfill the requirements for one of these minors.

CREDENTIAL PROGRAM FOR MAJORS OTHER THAN EDUCATION

Students who plan to prepare for the elementary credential by direct application to the State Department of Eduaction and who are majoring in fields other than education should consult with advisers in their major department and in the Department of Education at the beginning of the junior year. This is normally a 5-year program.

GENERAL JUNIOR HIGH SCHOOL CREDENTIAL

The junior high school credential entitles the holder to teach in grades seven, eight, and nine in any elementary, junior high, or high school.

General Requirements. Education majors wishing to qualify for this credential must satisfy the requirements listed on pages 65 and 66 including History 4A or 4B, or 39, or Sociology 1; Art 1 or 31 or 195 and Music 15 or 40A; and controlled electives from geography, history, sociology, mathematics, or the sciences.

Requirements for the Major. In addition to the Core for Education Majors listed on pages 106 and 107, it is recommended that one additional education course beyond the core be completed. Two minors with a minimum of 18 to 20 units each must be completed in subject fields taught in the secondary schools of the State.

Education J 190A–J 190B, Procedure, must be completed before enrolling in directed teaching. No student on probation is permitted to register for these procedures courses. Eight units of student teaching with a grade of C or higher are required before graduation. The student should arrange his program so that only 4 units of student teaching are scheduled for any one semester. Students receiving lower than C in courses J 190A–J 190B or J 192A–B–C–D will not be recommended for teaching. See under Scholarship below.

Candidates may qualify for the general junior high school credential in two ways:

1. By completing a major in junior high school education and two minors in *subjects taught in the secondary schools.*

2. By completing a major and a minor in subject fields commonly taught in secondary school plus the education course requirements for the general junior high credential as listed on pages 106 and 107.

Requirements for the Minors. For course requirements for the minors selected, see description under the departments in which the minors are administered. For each minor there must be a grade C average or higher on courses taken in the University of California.

GENERAL SECONDARY CREDENTIAL

Information about admission, preparation, scholarship, program, candidacy, and other matters is contained in the section of this bulletin on The Graduate Program (page 71). Requirements for teaching majors and teaching minors are listed with the departments concerned.

Candidates for the general secondary credential must complete 24 units in education as follows:

	Units
Education 110. Educational Psychology	3
Education 112. Growth and Development of the Adolescent	2
Education 117. Pupil Personnel and Counseling	
or	
*Education 164. Education and Vocational Guidance	2
Education 120. Measurement and Evaluation in the Secondary School	2
Education 147. Audio-Visual–Radio Education	2
Education 170. Secondary Education	3
Education S190. Secondary School Procedure in Student's Major Field	2
Education S190A or B. Secondary School Procedures	2
Education S192. Student Teaching in Major and Minor Fields	6

Student Teaching

Filing of Application. All majors in any department who are preparing for teaching credentials must file an application for student teaching with their major department not later than the end of the first six weeks of the semester immediately preceding a student teaching assignment. This application will be forwarded within two weeks by the department to the Director of Student Teaching. All applications will be carefully reviewed by the Committee on Teaching Eligibility and the candidate will be advised of its findings at an early date.

Scholarship. A student other than a candidate for the general secondary credential may not register for student teaching unless he has at least an average grade of C in courses taken in the University of California. In addition, the average of all grades received in courses in education must not fall below C. If at the conclusion of any semester the average grade should fall below C, the student may not register for student teaching until the C average is re-established. No student may be graduated or recommended for teaching who has not maintained at least a C average in student teaching. Elementary education majors must also receive a grade of C or better in El 190 and Ar 190 in order to be eligible for student teaching. For scholarship requirements for the general secondary credential candidates see page 71.

Unit credit. Unit credit for student teaching will be allowed only for work completed under the direction and with the approval of the Chairman of the Department of Education or his staff. Experienced teachers may be excused from a certain amount of student teaching after ability to teach has been demonstrated on the campus under the direction of the supervisors of student teaching. However, such credit will not be considered as fulfilling unit requirements toward graduation.

* Only 2 units of Education 164, Education and Vocational Guidance (2–3) may be applied on the required 24 units for the general secondary credential.

Facilities. Student teaching will ordinarily be assigned in Santa Barbara and the vicinity. However, assignments may be made as far away as fifty miles from the campus. In all cases student teaching is performed under the supervision of the University supervisors. The student himself must arrange for transportation. The public schools afford the laboratory for observation and student teaching. Student teachers in early childhood and elementary education are, as a rule, assigned to the local elementary schools or placed in the schools of near-by communities. The local junior and senior high schools are available for junior high, special secondary, and general secondary student teaching assignments. Student teaching is also available in some fields in Ventura city and county schools.

Proficiency Test Requirements. Proficiency tests in certain statutory subjects are required of all candidates for teaching credentials recommended by this University.

Speech Requirement. See page 67.

Physical Examinations

1. All new students, freshmen and transfers, must pass a physical examination given by the University physician.
2. All candidates for any teaching credential must pass a physical examination before a student teaching assignment will be granted. This is a preliminary evaluation of the prospective student teacher's physical suitability for teaching and should be taken as soon after 45 units are completed as possible. It is the student's responsibility to see that this health examination is taken and that the certificate issued by the Health Center is filed in the office of the Chairman of the Department.
3. All candidates who have been absent for one or more semesters must pass a physical examination before credit may be given for courses undertaken upon their return.

Combination of Two Credentials

If a combination of the kindergarten-primary and elementary credentials, or the elementary and junior high school credentials, is desired, at least one additional semester will be required. Consult the appropriate departmental adviser about additional course requirements.

For a special credential in speech correction in addition to the regular general credentials, see page 214.

For a special secondary credential in addition to the general elementary credential, see the departmental adviser.

Major in Education (without credential)

Students may complete an education major without a teaching credential.

General Requirements. Fulfill the general education requirements as for the credential majors with approximately twenty additional units in art, English, psychology, science and social science.

Requirements for the Major. Education 57 or 170; 101, 102, or 105 (two courses from the preceding group); Education 106; 110; 111 or 112; 117 or 164; 119 or 120; 126; 147; 180. Two upper division courses in psychology are also required.

Minor in Education

A minor in education is offered for those who are not expecting to obtain a teaching credential. The following courses in education constitute the minor:

Education 57. Introduction to the Study of Education
or
Education 101. History of Education

	Units
or	
Education 102. History of American Education	
or	
Education 105. Education in Foreign Countries	2
Education 106. Philosophy of Education	2
Education 110. Educational Psychology	3
Education 111. Child Growth and Development	
or	
Education 112. Growth and Development of the Adolescent	2
Education 117. Pupil Personnel and Counseling	
or	
Education 126. Principles of Parent Counseling	2
Education 170. Secondary Education	3
Education 180. Educational Sociology	2
Elective courses in education	4

Credential Program

The State of California is in the process of making far-reaching revisions of its structure of teacher certification. Changes in the credential programs at University of California, Santa Barbara, will be made to accord with the state-wide revision. The kindergarten-primary, general elementary, junior high school, and general secondary credentials will continue to be offered as in the past.

Lower Division Courses

57. Introduction to the Study of Education. (3) I, II.
Mr. Capps, Mr. Robinson

Emphasis is placed on historical, philosophical and sociological factors and their effects on American education, curriculum and practices.

Upper Division Courses

101. History of Education. (2) I. Mr. Sands

Educational thought and practice as a phase of social progress. Ancient and medieval conceptions and their effect on modern education.

102. History of American Education. (2) II. Mr. Sands

Educational ideals and movements: their effect on modern education.

105. Education in Foreign Countries. (2) I, II. Mr. Sands, Mr. Swineford

Survey of organization and teaching practices. Education as an instrument of political power; dependence on natural and cultural traditions.

106. Philosophy of Education. (2–3) I, II. Mr. Sands

The educational classics and their meaning for modern man. Critical analysis of these classics from accepted philosophic viewpoints and implications for educational practices.

110. Educational Psychology. (3) I, II. Mrs. Williams, Mr. Wilson

Prerequisite: Psychology 1.

Application of principles of general psychology to the educative process; learning as it functions in the school environment.

111. Child Growth and Development. (2) I, II. Mrs. Williams

Prerequisite: Psychology 1.

Mental and physical growth and development; personal and social adjustment; preventive hygiene. Directed observation of normal children.

112. Growth and Devlopment of the Adolescnt. (2) I, II. Mrs. Williams
The physical, mental, moral, spiritual, and social traits of adolescence; mental hygiene. Directed observation.

117. Pupil Personnel and Counseling. (2) I, II. Mrs. Williams, Mr. Wilson
Practices and techniques in school counseling and guidance; child study; counseling of handicapped children and their parents.

119. Measurement and Evaluation in Education. (3) I, II. Mr. Durflinger
Prerequisite: Education 110.
Purposes and techniques of evaluation, including statistical measures, construction of tests, tabulating and scoring standard examinations, interpretation of evaluations.

119P. Measurement and Evaluation in Physical Education. (2) I, II.
Mr. Rochelle, Miss Colville
Elementary statistical procedure. Construction, analysis, interpretation, and evaluation of the various tests.

120. Measurement and Evaluation in the Secondary School. (2) I, II.
Prerequisite: Education 110. Mr. Chilcott, Mr. Durflinger
Introduction to the theory of measurement and evaluation; achievement test construction; critical study of typical tests; reports to parents and cumulative records; elementary statistical techniques.

122. Dramatics, Music, and Storytelling in Early Childhood. (3) I.
Miss Leonard, Miss VanDeman
Creative experiences in spontaneous and organized dramatics; development of original music, stories, and poetry.

126. Principles of Parent Counseling. (2) I, II. ———
Basic principles of guidance of children and youth with behavior problems arising from parent-child relationships and from home-school environments; teacher-parent conferences, and dynamics of family-school relationships.

EC 128. Early Childhood Principles of Parent Counseling. (2) I, II.
Miss VanDeman
Guidance measures for children with behavior problems arising from parent-child relationships and from home and school environments (birth to ten). Teacher-parent conferences; parent participation; group meetings; special attention to counseling of exceptional children and their parents.

135. Remedial Reading. (2) I, II. Mrs. Robeck
Methods and materials of instruction and diagnosis; remedial measures applied to difficulties in reading for children in the elementary and junior high schools.

136A–136B. Remedial Reading Laboratory. (1–1) I, II. Mrs. Robeck
Prerequisite: approval of the instructor. Education 135 and 136 may be taken concurrently.
Students assigned to directing remedial reading activities at any designated level in the school.

139. Curriculum Development. (2) I, II. Mr. Robinson
Basic principles and practices in elementary and secondary curriculum development as derived from the psychological, sociological, and philosophical considerations.

147. Audio-Visual–Radio Education. (2) I, II. ———
Lecture, two hours; laboratory, one hour.
Audio-visual and radio aids in classroom teaching in elementary and secondary schools.

149A. Field Work in Counseling. (3) I, II. Mrs. Williams
Prerequisite: course requirements for pupil personnel credential and permission of instructor.
Supervised experience in counseling students on educational, vocational, and personal problems, participation in case conferences and related activities.

149B. Field Work in Counseling. (3) I, II. Mrs. Williams
Prerequisite: course requirements for pupil personnel services credential and permission of the instructor.
Supervised experiences in counseling students on educational, vocational, and personal problems, participation in case conferences and related activities. *Particular emphasis on school counseling.*

149C. Field Work in Counseling. (3) I, II. Mrs. Williams
Prerequisite: course requirement for pupil personnel services credential and permission of the instructor.
Supervised counseling of students and parents on problems of *attendance and welfare.*

164. Educational and Vocational Guidance. (2–3) I, II. Mr. Monroe
Aims, objectives, and practices of guidance for classroom teachers in elementary and secondary schools.

170. Secondary Education. (3) I, II. Mr. Dillman, Mr. Seefeld
Historical background; present practices; organization; program; curricula; methods and personnel in the elementary and secondary schools. Observations required.

180. Educational Sociology. (3) I, II. Mr. Chilcott, Mr. Sands
American culture—social groups, processes, institutions, and changes—and its relation to education. Influence of organized education in social evolution.

186. Laws Relating to Schools and Children. (2) I, II. ———
Prerequisite: ten hours in education or approval of Education Department adviser.
Laws relating to social welfare, social case work, school guidance programs, work education programs, child welfare, attendance regulations; Labor Code.

190. Teaching Procedure.
All 190 courses are courses in methods of teaching. They include a study of curriculum and of the procedures in use in teaching the particular area or department of credential, or at the particular level indicated in the title of the course. The courses in the general fields include observation of demonstration teaching followed by discussion.
General secondary credential candidates are required to take Education S 190A and Education S 190B, or the special methods courses offered by their major or minor departments.
The special secondary fields offer methods of both the elementary and secondary levels. See respective department chairmen for prerequisites for 190 courses.

A 190A. Teaching Procedures in Elementary School Art. (2) I.
Mrs. Campbell
For art majors only. The preparation and organization of materials for use in teaching art in the schools.

A 190B. Teaching Procedures in Secondary School Art. (2) II.
For art majors only. Mrs. Campbell

Ar 190. Arithmetic Procedure for the Elementary School. (3) I, II.
Mr. Capps, Mrs. Irish
Prerequisite: Education 110 and 111. To be taken concurrently with Education El 190.
Problems of teaching arithmetic in elementary and junior high education.

C 190. College Procedures—General. (3) I, II. Mr. Chilcott
Prerequisite: Education 110 or concurrent.
Procedures and problems of teaching in the college classroom; remedial procedures in subject areas, observations and participation in college classrooms; audio-visual techniques; measurement and evaluation of pupil progress.

EC 190A. Early Childhood Education Procedure (Kindergarten). (2) I. Miss Leonard

EC 190B. Early Childhood Education Procedure (Primary) with Primary Forum and Observation. (4) II. Miss Leonard

El 190. Elementary School Procedure. (5) I, II.
Miss Byers, Mrs. Robeck, Mr. Robinson
Prerequisite: Education 110, 111, Ar 190, Industrial Arts 145, Physical Education 138.
This course covers the teaching of language arts, social studies and reading in the elementary school. Students build a social studies unit, observe classes in elementary schools in addition to reference reading and discussion of technique. Includes principles of education.

H 190. Teaching Procedures in Home Economics. (2–3) I, II. Mrs. Palmer

I 190A. Teaching Procedures in Industrial Arts Education. (2) I, II.
Field trips. Mr. Seefeld

I 190B. Content and Materials in Industrial Arts. (2) I, II. Mr. Scherer
Prerequisite: Education I 190A.

I 190C. Curriculum Development in Industrial Arts. (2) I, II. Mr. Monroe

J 190A. Junior High School Procedure—Mathematics, Biological and Physical Sciences. (2) I, II. Mr. Chilcott, Mr. Swineford

J 190B. Junior High School Procedure—English, Social Sciences, and Foreign Languages. (2) I, II. Mr. Chilcott, Mr. Swineford

MEC 190. Early Childhood Music Education. (2) II. Miss VanDeman

ME 190. Elementary Music Education. (2) I, II. Miss Westra
Elementary education majors must have completed Music 15, 40A–40B and El 190 (Elementary Procedure) before taking this course, or be enrolled in Elementary Procedure concurrently.

MI 190. Methods of Teaching Instrumental Music. (2) I. Mr. Faulkner
Prerequisite: Music 21, 22, 23.
Includes methods in both elementary and secondary schools.

MV 190. Methods of Teaching Vocal Music. (2) II. Mr. Christy
Prerequisite: Music 41A–41B or equivalent.
Includes methods in both elementary and secondary schools.

P 190. Teaching Procedures in Physical Education. (2) I, II.
Miss Hodgkins, Mr. Wilton
Methods, materials, and procedure of teaching, program planning, and organization in physical education, together with observation in elementary and secondary schools.

PSc 190. Physical Science in Education. (3) I, II. Mr. Chilcott

S 190A. Secondary School Procedures—General. (2) I, II. Mr. Dillman
Prerequisite: Education 110 and 170.
Articulation among the several school subjects. Classroom teachers' legal boundaries. Disciplinary routines. Curricular and cocurricular duties and responsibilities. Selection of methods of teaching, in terms of the subject area.

S 190B. Secondary School Procedures—Mathematics and Physical Sciences. (2) I, II. Mr. Dillman
Prerequisite: Education 110 and 170.
The school curriculum and the procedures used in teaching in the areas mentioned at the junior and senior high school levels. There will be observations of demonstration teaching followed by discussion. Students prepare lesson plans and conduct simulated classes at the high school level.

Sc 190. Natural Science for Education. (3) I, II. Mr. Wells

Sp 190. Speech Activities and Methods for Teachers. (2) II. Mr. Schoell

SB 190. Teaching Procedures in the Biological Sciences. (2) I, II. Mr. Wells
Prerequisite: major in one of the biological sciences, plus senior or graduate status; or minor in one of the biological sciences, plus senior or graduate status.
Review and orientation of subject matter in terms of philosophy and content, preparatory to secondary school teaching. Includes comparative studies of methods, examination of texts and courses of study, actual classroom observation, and individual practice in science subject matter presentation.

SE 190. Problems in Teaching English Literature and Composition in the Secondary Schools. (2) I. Mrs. Haight
Prerequisite: senior or graduate standing.
This course is designed for seniors and graduate students undertaking a teaching major or minor in English, and should be completed before student teaching. The course is required of candidates for the general secondary credential with a major in English, and is accepted in partial satisfaction of the 24-unit requirement in education for the credential.

SF 190. Procedures in Teaching French in Secondary Schools. (2) I, II.
Prerequisite: French 101A–101B. Mr. Beachboard
Required of candidates for the general secondary credential with a major in French. Accepted in partial satisfaction of the 24-unit requirement in education for the credential.

SN 190. Procedures in Teaching Spanish in Secondary Schools. (2) I, II.
Prerequisite: Spanish 101A–101B. Mr. Avila, Mr. Murguía
Required of candidates for the general secondary credential with a major in Spanish. Accepted in partial satisfaction of the 24-unit requirement in education for the credential.

SS 190. Teaching Procedures in Social Studies. (2) I, II. Mr. High
Prerequisite: senior or graduate standing; major in economics, history, political science, sociology, or combination social sciences.
This course is required of candidates for the general secondary credential with a major in one of the named social sciences, and is accepted in partial satisfaction of the 24-unit requirement in education for the credential.

191. Observation and Participation.
Special courses involving additional observation of master teaching, conferences, discussion, and classroom participation.

EC 191. Observation, Participation, and Planning. (3) I, II.
Miss Leonard, Miss VanDeman

192. Student Teaching.

All 192 courses are concerned with student teaching in the various fields and at the different levels indicated by the titles. Experience in classroom teaching carried on under supervision of classroom teachers and college supervisors. Planned to give the student opportunity to put into practice the principles of teaching and theories of education which have been presented and discussed previously in preliminary courses in education. Practical work in the classroom is supplemented by conferences with teachers and supervisors, and by written lesson plans and assigned work. Prerequisites required for all 192 courses. See respective department chairmen. All student teaching for the general secondary credential is open only to regular graduate students.

A 192A–B–C. Student Teaching: Art. (2–2–2) I, II. Mrs. Campbell
Prerequisite: Education A 190A–190B.

C 192A–192B. Student Teaching: Junior College. (2–2) I, II. Mr. Chilcott
Prerequisite: Education C 190 College Procedures—General.

EC 192A. Student Teaching: Kindergarten. (4) I, II.
Miss Leonard, Miss VanDeman

EC 192B. Student Teaching: Primary. (6) I, II.
Miss Leonard, Miss VanDeman

El 192A–192B. Student Teaching: Elementary School. (2–6) I, II.
Miss Byers, Mr. Capps, Mrs. Irish, Mrs. Robeck, Mr. Robinson, Mrs. Williams
Prerequisite: Education 110, 111, Ar 190, El 190; Industrial Arts 145; Physical Education 138. Courses Art 195, Ed. 147, ME 190, Sc 190 may be taken concurrently. Maximum of 8 units applied to graduation.

H 192A–B–C. Student Teaching: Homemaking. (2–2–2) I, II. Mrs. Palmer

I 192A–192B. Student Teaching: Industrial Arts. (3–3) I, II. The Staff
Field trips.

J 192A–B–C–D. Student Teaching: Junior High School. (2–2–2–2) I, II.
Mr. Chilcott, Mr. Swineford

M 192. Student Teaching: Music. (1) I, II. The Staff
Prerequisite: Education MI 190, MV 190. May be repeated for credit up to 6 units, although only 4 units are required.

P 192A–B–C. Student Teaching: Physical and Health Education. (2–2–2) I, II. The Staff

S 192A–B–C. Student Teaching—Secondary Education. (2–2–2) I, II.
Mr. Dillman
Prerequisite: procedures class in major or education procedures class. Open to students who have been accepted in regular graduate status.

SB 192A–192B. Student Teaching: Biological Sciences. (2–2) I, II.
Prerequisite: SB 190 and admission to student teaching. Mr. Wells

SE 192A–192B. Student Teaching: English. (2–2) I, II. Mrs. Haight
Prerequisite: SE 190 and admission to student teaching.

SF 192A–192B. Student Teaching: French. (2–2) I, II. Mr. Beachboard
Prerequisite: SF 190, and admission to student teaching.
Required of candidates for the general secondary credential with a major in French. Accept in partial satisfaction of the 24-unit requirement in education for the credential.

SN 192A–192B. Student Teaching: Spanish. (2–2) I, II.
Mr. Avila, Mr. Murguía

Prerequisite: SN 190, and admission to student teaching.

Required of candidates for the general secondary credential with a major in Spanish. Accepted in partial satisfaction of the 24-unit requirement in education for the credential.

Sp 192A. Student Teaching: Speech. (2–4) I, II. Mr. Schoell

Sp 192B. Student Teaching: Speech Correction. (2–4) I, II. Mr. Schoell

SS 192A–192B. Student Teaching: Social Studies. (2–2) I, II. Mr. High

Prerequisite: Education SS 190 and admission to student teaching.

193. Teaching Problems.

Individual and group problems of student teachers at the level of education indicated in the title. To be taken concurrently with student teaching.

EC 193A–193B. Teaching Problems: Early Childhood Education. (1–1) I, II.
Miss Leonard, Miss VanDeman

El 193A–193B. Teaching Problems: Elementary Education. (1–1) I, II.
Miss Byers, Mr. Capps, Mrs. Irish, Mrs. Robeck, Mr. Robinson, Mrs. Williams

J 193A–193B. Teaching Problems: Junior High Education. (1–1) I, II.
Mr. Chilcott, Mr. Swineford

199. Independent Studies in Education. (1–4) I, II. The Staff

Open only to advanced students approved by the chairman of the department.

Study of special problems in various fields of education.

Graduate Courses

200. Research Methods in Education. (3) I, II. Mr. Durflinger, Mr. Wilson

Prerequisite: graduate standing.

Aims and methods of educational research. Includes study of reported research and student projects.

209. The Junior College. (2) I, II. Mr. Chilcott

Prerequisite: graduate standing or consent of the instructor.

Study of the history, function, organization, and curriculum of the junior or community college. For students interested in teaching in the junior college.

210. Advanced Educational Psychology. (2) I, II. Mr. Durflinger

Prerequisite: Education 110, 111 or 112, or equivalent.

Exploration and critical study of current literature and research in human learning; emphasis upon learning in the school; developmental and sociological points of view explored.

214. Educational Statistics. (2) I, II. Mr. Durflinger

Prerequisite: Education 110 and 119 or 120, or equivalent.

Regression equations with two variables, measures of central tendency and variability, zero order correlations, frequency distributions. Statistical procedures in the practical solution of educational problems.

217. Principles of Guidance, Advanced. (2) I, II. Mr. Wilson

Prerequisite: Education 110, 117, 119, and consent of the instructor.

223. Problems in Teaching the Handicapped Child. (2) I, II. ———
Prerequisite: graduate standing or consent of instructor.
A study of the education of the handicapped child—his physical, mental and emotional deviations from the normal and the related learning difficulties.

229. Mental Health in the Classroom. (2) I, II. ———
Prerequisite: graduate standing or consent of instructor.
Principles of mental health appropriate for the classroom teacher, the school administrator and for the children of the schools.

250. Problems in Teaching the Gifted. (2) I, II. ———
Prerequisite: graduate standing or consent of the instructor.
The course is designed to give practical help to classroom teachers in elementary and secondary schools on the problems of identifying the gifted and learning the most effective ways of educating them.

ENGINEERING

See School of Engineering, page 27.

Lower Division Courses

25. Engineering Graphics. (4) I, II. The Staff
Lecture, two hours; laboratory, six hours. Prerequisite: plane geometry, trigonometry, mechanical drawing; and Mathematics 3A, which is taken concurrently.
Fundamental principles of orthogonal projection and their application to the solution of three-dimensional problems arising in the various branches of engineering; freehand pictorials; dimensioning; freehand and instrumental working drawings; graphic computations; plotting experimental data and determination of elementary empirical equations.

ENGLISH

Joseph Foladare, Ph.D., *Professor of English.*
George Hand, Ph.D., *Professor of English.*
Hugh Kenner, Ph.D., F.R.S.L., *Professor of English (Chairman of the Department).*
J. Chesley Mathews, Ph.D., *Professor of English.*
William Frost, Ph.D., *Associate Professor of English.*
Genevieve W. Haight, M.A., *Associate Professor of English.*
Marvin Mudrick, Ph.D., *Associate Professor of English.*
Donald R. Pearce, Ph.D., *Associate Professor of English.*
Robert E. Robinson, Ph.D., *Associate Professor of English.*
Douwe Stuurman, M.A., B.Litt. (Oxon.), *Associate Professor of English.*
Lawrence Willson, Ph.D., *Associate Professor of English.*
*Helmut W. Bonheim, Ph.D., *Assistant Professor of English.*
Edgar Bowers, Ph.D., *Assistant Professor of English.*
Phillip W. Damon, Ph.D., *Assistant Professor of English.*
Lee F. Gerlach, Ph.D., *Assistant Professor of English.*
Richard W. Lid, Ph.D., *Assistant Professor of English.*
Edward W. Loomis, Ph.D., *Assistant Professor of English.*
Benjamin T. Sankey, Ph.D., *Assistant Professor of English.*
Alan Stephens, Ph.D., *Assistant Professor of English.*
Homer D. Swander, Ph.D., *Assistant Professor of English.*
Milton A. Orowitz, Ph.D., *Instructor in English.*
Eileen A. Pidgeon, M.A., *Associate in English.*

Literature deals in specific human experience which is neither dated in time nor localized in place. Some acquaintance with literature, and some trained ability to become further acquainted with it, provide the civilized human being with nutriment he can obtain in no other way. The Department of English (1) provides all undergraduates with the opportunity for guided literary study, through the 1A and 1B courses; (2) makes available to all students a wide range of courses that may be taken for credit as electives; and (3) offers a major leading to the Bachelor of Arts degree. It also administers the Subject A program within the Santa Barbara campus of the University; students must have passed Subject A (either examination or course) before taking any course in English (see pages 45 and 46).

The Major. The English major pursues a planned program of English courses and cognate studies from which he can acquire a sound and orderly knowledge of our literature and the wisdom and exhilaration available in it, as well as a poised critical sense and some ability in graceful and efficient expression. Instruction is carried out largely by the discussion method, in classes restricted by departmental policy to a size which best promotes the frank and enlightened exchange of opinion.

(*a*) Each major student is assigned to a faculty adviser for guidance in preparing his program. To prepare for the major the student must pass courses 1A–1B, 53, and 83A, with an average grade of C or higher, and History 4A–4B.

(*b*) For his upper division program, the student must take the following courses, as far as possible in the order listed:

	Units
English 117A. Shakespeare	3
One of English 158, 159, 160, 161 (Renaissance)	3
English 162. Milton	3

* Absent on leave, 1961–1962.

	Units
One of English 168, 170, 171 (Seventeenth and Eighteenth Centuries)	3
English 152. Chaucer	3
One of English 178, 179, 125B (Nineteenth Century)	3
One of English 136, 137, 138, 139 (American Literature)	3
One of English 147, 148, 153, 154 (Twentieth Century)	3

(*c*) He must also enroll in two semesters of the Comprehensive Survey, beginning in the first semester of his senior year, as follows:

English 197A–197B. Comprehensive Survey	4

This course consists of a series of weekly meetings at which students present critical papers for analysis and discussion with the instructor and class. During his second semester in the course the student concentrates on a single substantial paper which calls into play a reasonably comprehensive knowledge of English literature.

Students who had commenced working toward an English major before the above requirements came into effect (July, 1960) may substitute, without penalty, courses now available for courses formerly required. Similarly students who have already taken courses formerly required for the English major but no longer listed here will be able to substitute them for comparable courses in the above list. Each substitution requires the faculty adviser's approval.

(*d*) English literature has been constantly fertilized by that of the Continent, and ability to read at least one continental language is essential for understanding the procedures of English writers. Each student must complete French 4, German 4, or Latin 4, or demonstrate equivalent knowledge of either of these languages by passing an examination. Another language may be substituted with the consent of the chairman. Any student who intends to do graduate work in English should consult his departmental adviser early in his undergraduate career about the special language requirements of the various graduate schools.

(*e*) History 153B (History of England) is strongly recommended for all English majors.

Requirements for the Minor. Students normally take a minor by completing the following courses *in sequence:* 1A–1B, 46A–46B, 130, and 5 additional units of English electives. 102A–102B may be substituted for 46A–46B. Transfer students are required to include 117E among their electives, and others are advised to do so. Exceptions to this program must be approved by the chairman of the department. Students wishing an 18-unit minor must take a program completely specified by the chairman. In all instances, the minor must include at least 6 units of upper division courses.

Requirements for the Master's Degree in English

1. A candidate for the master's degree must present 24 units of work, consisting of a minimum of 12 units of graduate credit and a maximum of 12 units of upper division credit in courses not taken previously as an undergraduate. A candidate's graduate courses may include work in 298 or 299 courses in connection with which the candidate may be asked to attend relevant undergraduate courses while working on his 298 or 299 project.

2. Evidence of formal study of French, German, or Latin is required for admission to the M.A. Program. In addition, before taking the master's oral, the candidate must pass a reading examination in one of these languages.

3. No thesis is required for the M.A. in English. An oral covering the chief authors and works of English and American literature is required.

4. Opportunties sometimes exist for M.A. candidates, under departmental supervision, to teach Subject A or freshman English part time, or to work as readers in the department. Those interested should apply to the departmental chairman; if they have had previous experience, they should furnish details concerning it.

5. A candidate who has not majored in English as an undergraduate or whose major did not include Chaucer, Shakespeare, Milton, and other basic English writers, may be required to do more than 24 units of work in the department before taking the master's oral.

The General Secondary Credential, Teaching Major.

1. In addition to the requirements for the major specified above, the following courses are needed for the general secondary credential:

	Units
English 106G. Problems of Composition	3
English 110. The Development of the English Language	3
English 208. Problems in the Study of Literature	3
English 230. American Literature	3
Speech 70, 135, 155, or 159A or 159B; or English 27 or 127 (Journalism)	3

2. The course requirements in education are listed on page 110.

The General Secondary Credential, Teaching Minor

For information concerning a teaching minor for the general secondary credential, confer with the departmental chairman. The California State Board of Education requires that candidates for the general secondary credential complete a 20-unit minor.

Subject A: English Composition. (No credit) I, II. The Staff
Three hours weekly. Required of all students who do not pass the examination in Subject A.

Lower Division Courses

1A–1B. First-Year Reading and Composition. (3–3) Yr. Beginning either semester. The Staff
English 1A–1B is prerequisite to all other courses in English.
1A. Intensive reading in selected literary masterpieces, accompanied by practice in composition.
1B. Further training in intensive reading and expository writing.

27. Newswriting. (3) I. ———

41A–41B. Creative Writing. (3–3) Yr. Mr. Hand
Writing in forms chosen by the student, such as autobiography, essay, one-act play, short story, and verse. 41A is not prerequisite to 41B.

46A–46B. Survey of English Literature. (3–3) Yr. The Staff
46A is not prerequisite to 46B.

53. Introduction to the Study of Poetry. (3) I, II. The Staff

63. Introduction to the Novel. (3) I. The Staff
Close reading and discussion of selected masterpieces of fiction.

73. Introduction to Drama. (3) II. The Staff
Close reading and discussion of selected masterpieces of drama, ancient and modern.

83A. World Literature. (3) I, II. The Staff
Close reading in translation of selected ancient authors, such as Homer, the Greek dramatists, Plato, Virgil.

83B. World Literature. (3) I, II. The Staff
Close reading in translation of selected mediaeval, Renaissance and 18th century authors, such as Dante, Cervantes, Voltaire.

84. Modern Continental Literature. (3) I, II. Mr. Stuurman
Reading, in translation, of such writers as Camus, Proust, Flaubert, Dostoyevsky, Tolstoy, Rilke, Kafka, Lorca, and Valery.

102A–102B. Major British Writers. (3–3) Yr. The Staff
Pivotal authors from Chaucer to the present, in a sequence designed for students who require a literary survey course in the upper division. 102A: Chaucer to Pope. 102B: Johnson to Eliot. 102A is not prerequisite to 102B.

103. Writing of Fiction. (3) I, II. Mr. Loomis, Mr. Mudrick
Prerequisite: consent of instructor.
May be repeated for credit up to 12 units.

104. Writing of Verse. (3) I, II. Mr. Bowers, Mr. Stephens
Prerequisite: consent of instructor.
May be repeated for credit up to 12 units.

106G. Problems of Composition. (3) I. Mr. Lid, Mr. Robinson

110. The Development of the English Language. (3) I. Mr. Damon
Historical study of the structure and vocabulary of English; cultural implications of linguistic process; introduction to methods of linguistic analysis.

113. Literary Theory and Criticism. (3) II. ———
Prerequisite: English 53, or equivalent, or consent of the instructor.
Exploration of the critic's methods and objectives; study of selected major critical documents from Aristotle to the present.

115. Early English Literature. (3) I. Mr. Damon
Readings of Old English manuscripts (originals and translations), through the French period of influence to the time of Chaucer.

116. The English Bible as Literature. (3) I, II. Mr. Stuurman

117A. Shakespeare (3) I, II. Mr. Swander

117B. Shakespeare (3) II. Mr. Swander
Prerequisite: English 117A or 117E or consent of instructor.
Advanced studies in Shakespeare.

117E. Shakespeare. (3) I. The Staff
Primarily for non-majors.

120. Modern Drama. (3) II. Mr. Pearce
European and American drama from Ibsen to the present.

124. Readings in the Modern Short Story. (3) I, II. Mr. Orowitz

125A. Eighteenth-Century Fiction. (3) I. Mr. Mudrick, Mr. Orowitz
Defoe, Richardson, Fielding, Smollett, Sterne.

125B. Nineteenth-Century Fiction. (3) II. Mr. Mudrick
Austen, Emily Brontë, Dickens, Thackeray, Trollope, Hardy, George Eliot, and others.

127. Advanced Journalism. (3) II. ———
Prerequisite: English 27 or its equivalent.

130. Survey of American Literature. (3) I, II. Mr. Mathews, Mr. Willson
Hawthorne, Emerson, Melville, Whitman, Henry James.

132. Studies in American Literature. (3) I. Mr. Willson
Main developments in American thought studied in the writings of Edwards, Franklin, Emerson, and others.

135. The Puritan Tradition in American Literature. (3) I. Mr. Willson
The development of the main ideas of American Puritanism; discussion of Henry Adams, Thoreau, Henry James, Santayana and other modern exponents of the tradition; the survival of Puritan elements and attitudes in contemporary literature.

136. American Prose until 1900. (3) I. Mr. Willson
Writers of nonfictional prose, such as Mather, Edwards, Emerson, Thoreau, Henry Adams.

137. American Verse until 1900. (3) II. Mr. Mathews, Mr. Stephens
Poets such as Taylor, Bryant, Whittier, Longfellow, Poe, Emerson, Whitman, Dickinson.

138. American Fiction until 1900. (3) I. Mr. Mathews
Cooper, Hawthorne, Melville, Poe, Twain, James, and others.

139. American Fiction since 1900. (3) II. Mr. Loomis, Mr. Willson
Faulkner, Hemingway, Norris, Dreiser, Crane, and others.

142A–B–C. Dante in English Translation. (1–1–1) II. Mr. Mathews
142A. Dante's *Hell.*
142B. Dante's *Purgatory.*
142C. Dante's *Paradise.*

146. Renaissance. (3) II. ———
An historical survey of the literature and social background of England between 1500 and 1660.

147. British Fiction since 1900. (3) II. Mr. Lid
Conrad, Bennett, Lawrence, Forster, Woolf, and others.

148. The Flaubertian Tradition in Fiction. (3) I. Mr. Kenner, Mr. Lid
Ford Madox Ford, Wyndham Lewis, James Joyce.

151. Senior Studies. (3) I, II. The Staff
Designed primarily for seniors whose major subject is English, but open to qualified upperclassmen in other majors. (151D, Donne and Jonson; 151Dr, Dryden; 151F, Faulkner; 151J, Samuel Johnson; 151Ja, Henry James; 151L, Lawrence; 151P, Pope; 151S, Spenser; 151Sw, Swift; 151Sy, The Symbolist Movement; 151W, Wordsworth; 151Y, Yeats; etc.)

152. Chaucer. (3) II. Mr. Mudrick
A reading course beginning with *Troilus and Criseyde* and including the *Canterbury Tales.*

153. Yeats, Pound, Eliot. (3) II. Mr. Kenner, Mr. Pearce
Prerequisite: English 53 or consent of the instructor.

154. British and American Verse since 1900. (3) I. Mr. Stephens
Bridges, Housman, Hardy, Robinson, Yeats, Stevens, Eliot, Pound, Williams, and others.

158. Prose of the English Renaissance. (3) I. Mr. Sankey
Major prose writers of the sixteenth and seventeenth centuries, such as More, Lyly, Sidney, Burton, Bacon, Browne, Hooker.

159. Tudor Verse. (3) I. Mr. Bowers
Nondramatic verse of such writers as Skelton, Wyatt, Spenser, Shakespeare, Marlow, Donne, Jonson.

160. Stuart Verse. (3) II. Mr. Bowers
The song writers, the cavaliers, the metaphysicals.

161. Drama of the English Renaissance. (3) II. Mr. Pearce, Mr. Swander
Marlowe, Jonson, Webster, and others.

162. Milton. (3) I, II. The Staff

168. Restoration and Eighteenth-Century Nonfiction Prose. (3) I. Mr. Frost, Mr. Hand
Such writers as Dryden, Addison, Steele, Swift, Johnson.

169. Restoration and Eighteenth-Century Drama. (3) II. Mr. Frost
Such dramatists as Dryden, Etheredge, Wycherly, Congreve, Sheridan.

170. English Satire. (3) I. Mr. Hand, Mr. Kenner
Donne, Rochester, Dryden, Swift, Pope, Johnson.

171. Restoration and Eighteenth-Century Verse. (3) II. Mr. Foladare
Such poets as Dryden, Pope, Johnson, Cowper, Burns, Blake, Crabbe.

178. Nineteenth-Century Prose. (3) I. Mr. Robinson
Nonfiction prose writers of the Romantic and Victorian periods, such as Coleridge, Hazlitt, Arnold, Carlyle.

179. Nineteenth-Century Verse. (3) II. Mr. Pearce
Poets of the Romantic and Victorian periods.

183. The Greek and Roman Drama. (3) II. Mr. Damon

189. Children's Literature. (3) I, II. Mrs. Haight
Restricted to credential candidates.
Extensive readings; building of literary understanding in children; principles underlying the choice of literature for different age levels.

SE 190. Problems in Teaching English Literature and Composition in the Secondary Schools. (2) I. Mrs. Haight
Prerequisite: senior or graduate standing.
This course is designed for senior and graduate students undertaking a teaching major or minor in English, and should be completed before student teaching. The course is required of candidates for the general secondary credential with a major in English, and is accepted in partial satisfaction of the 24-unit requirement in education for the credential.

194A–B–C–D. Group Studies for Advanced Students. (1–4) I, II. The Staff

197A–197B. Comprehensive Survey. (2–2) I, II. The Staff
An undergraduate seminar which provides the student with opportunities for more detailed and illuminating investigation of literary works in a long cultural perspective.

199. Independent Studies in English. (1–4) I, II. The Staff
Reading and conference for seniors of high scholastic standing.

Graduate Courses

208. Problems in the Study of Literature. (3) I. Mr. Hand
Prerequisite: graduate standing.

210. Chaucer. (3) I. Mr. Damon
Prerequisite: graduate standing.

230. **American Literature.** (3) II. Mr. Bowers, Mr. Mathews
Prerequisite: English 130A or its equivalent, and graduate standing.

267. **Studies in the Age of Johnson.** (3) II. Mr. Foladare
Prerequisite: graduate standing.

298. **Special Studies.** (1–4) I, II. The Staff
Prerequisite: graduate standing and consent of instructor.

299. **Directed Research.** (1–6) I, II. The Staff
Prerequisite: graduate standing and consent of the instructor.

Related Course in Another Department

Education SE 192A–192B. Student Teaching: English (2–2) I, II.
Prerequisite: SE 190 and admission to student teaching. Mrs. Haight

Classics

(See page 98)

FOREIGN LANGUAGES AND LITERATURES

William F. Aggeler, Ph.D., *Professor of French (Chairman of the Department).*
Andre J.-C. Prévost, D.D., Docteur ès Lettres, *Professor of French.*
Robert Beachboard, Docteur de l'Université de Paris, *Associate Professor of French.*
Rolf N. Linn, Ph.D., *Associate Professor of German.*
Edmond E. Masson, Ph.D., *Associate Professor of French and Russian.*
Ursula R. Mahlendorf, Ph.D., *Assistant Professor of German.*
Jack Murray, Ph.D., *Assistant Professor of French.*
*Mark J. Temmer, Ph.D., *Assistant Professor of French.*
Philip D. Walker, Ph.D., *Assistant Professor of French.*
Anne H. Greet, M.A., *Instructor in French.*

The Major in French

Preparation for the Major. Courses 1, 2, 3, or four years of high school French, and course 4, or other equivalent to be tested by examination. If course 4 is passed with a grade lower than B, the student must complete course 25A–25B as prerequisite to upper division courses.

Students who wish to make French their major subject must have maintained at least an average grade of C in the college courses in French taken prior to their junior year. Students transferring from other institutions may be tested by examination.

Students whose native language is French will not be permitted to enroll in any French course lower than French 25A–25B.

All upper division courses are given in French unless otherwise stated under course description.

The Major. Required: 24 upper division units. *Units*

French 101A–101B. Conversation and Composition 3–3
(May be omitted if 25A–25B (3–3) has been passed with a grade of A or B.)
French 109A–109B. A Survey of French Literature from the Middle Ages through the Nineteenth Century..... 3–3

The remaining units may be completed from courses:

French 103A–103B. Phonetics 1–1
French 112A–112B. The Nineteenth Century 3–3
French 120A–120B. The Seventeenth Century 2–2
French 121A–121B. The Eighteenth Century 2–2
French 125A–125B. French Institutions and Culture..... 3–3
French 130A–130B. Advanced Grammar and Composition 3–3
French 132A–132B. Contemporary French Literature 2–2

The General Secondary Credential, Teaching Major. The teaching major includes French 103A–103B, Phonetics (1–1), French 125A–125B, French Institutions and Culture (3–3), French 130A–130B, Advanced Grammar and Composition (3–3), among the requirements for the major specified above.

Courses required in the Department of Education are listed on page 110.

The Major in German

Preparation for the Major. Courses 1, 2, 3, or four years of high school German, and course 4, or other equivalent to be tested by examination. If course 4 is passed with a grade lower than B, consent of the department will be prerequisite to enrollment in upper division courses.

* Absent on leave, 1961–1962.

Students who wish to make German their major subject must have maintained an average grade of at least C in the college courses in German taken prior to their junior year. Students transferring from other institutions may be tested by examination.

Students whose native language is German will not be permitted to enroll in any lower division course in German.

All upper division courses are given in German, unless otherwise stated under course description.

The Major. Required: 24 upper division units. *Units*

German 106. German Grammar and Composition 3
German 118A–118B. Survey of German Literature 3–3

The remaining units may be completed from courses:
German 104A. Readings in the Drama of the Nineteenth Century 3
German 105. Lessing 3
German 108. Schiller's Life and Works 3
German 109B. Goethe's Dramas 3
German 110. The German Lyric from Goethe to Rilke..... 3
German 111. German Nineteenth-Century Prose 3
German 114A. Modern German Literature 3

The Minor in French, German, Russian

A minimum of 20 units in the chosen language is required; of these, 9 units must be in the upper division, which must include, respectively, French 101A–101B (3–3), German 106 (3). The minor in Russian, in addition to Russian 1, 2, 3, 4 and Russian 115A–115B, requires at least one unit of Russian 198. History 150, History of Russia, is strongly recommended for this minor.

Classics

(See page 98)

French

Lower Division Courses

In courses 1, 2, 3, and 4, sections meet five hours weekly.

1. Elementary French. Beginners' Course. (4) I, II. The Staff

2. Elementary French (continuation of 1). (4) I, II. The Staff

3. Intermediate French (4) I, II. The Staff

4. Intermediate French (continuation of 3). (4) I, II. The Staff

8A. French Conversation. (1) I, II. The Staff
Two one-hour meetings. Prerequisite: French 2.

8B. French Conversation (continuation of 8A). (1) II. The Staff

25A–25B. Advanced French. (3–3) Yr. The Staff
Prerequisite: French 4 or the equivalent.

Upper Division Courses

101A–101B. Conversation and Composition. (3–3) Yr. Mr. Aggeler
Original composition; translation. Discussion of selected passages from French literature.

103A–103B. Phonetics. (1–1) Yr. Mr. Beachboard

109A–109B. A Survey of French Literature from the Middle Ages through the Nineteenth Century. (3–3) Yr. Mr. Murray, Mr. Walker
Readings in the original. Lectures and discussion in English.

112A–112B. The Nineteenth Century. (3–3) Yr. Mr. Murray, Mr. Walker

120A–120B. The Seventeenth Century. (2–2) Yr. Mr. Aggeler, Mr. Murray

121A–121B. The Eighteenth Century. (2–2) Yr. Mr. Aggeler, Mr. Temmer

123A–123B. Symbolism in French Literature. (3–3) Yr. Mr. Prévost
Prerequisite: a reading knowledge of French.
Symbolism as a creative process in the evolution of French language and literature. A brief survey of the appearances and disappearances of symbolism in the development of French literature. Situation of the symbolist school in classicism, 18th Century individualistic nationalism, romanticism, "Parnassus," naturalism, and pantheistic mysticism.

125A–125B. French Institutions and Culture. (3–3) Yr.
Mr. Beachboard, Mr. Temmer

130A–130B. Advanced Grammar and Composition. (3–3) Yr. Mr. Aggeler

132A–132B. Contemporary French Literature. (2–2) Yr.
Mr. Murray, Mr. Temmer

199. Independent Studies in French. (1–4) I, II. The Staff
Individual investigations in literary fields.

German

Lower Division Courses

In courses 1, 2, 3, and 4, sections meet five hours weekly.

1. Elementary German. Beginners' Course. (4) I. The Staff

2. Elementary German (continuation of 1). (4) I, II. The Staff

3. Intermediate German. (4) I. The Staff

4. Intermediate German (continuation of 3). (4) II. The Staff
German 4 or equivalent is prerequisite for upper division courses in German.

Upper Division Courses

104A. Readings in the Drama of the Nineteenth Century. (3) II.
Mr. Linn, Miss Mahlendorf

105. Lessing. (3) I. Mr. Linn, Miss Mahlendorf

106. German Grammar and Composition. (3) I. Mr. Linn

108. Schiller's Life and Works. (3) II. Mr. Linn
Lectures and reading of selected texts.

109B. Goethe's Dramas. (3) I. Mr. Linn, Miss Mahlendorf

110. The German Lyric from Goethe to Rilke. (3) I.
Mr. Linn, Miss Mahlendorf

111. German 19th Century Prose. (3) I. Mr. Linn, Miss Mahlendorf

114A. Modern German Literature. (3) II. Mr. Linn, Miss Mahlendorf

118A–118B. Survey of German Literature. (3–3) Yr.
Mr. Linn, Miss Mahlendorf

199. Independent Studies in German. (1–4) I, II. The Staff
Individual investigations in literary fields.

Greek and Latin

(See page 98)

Russian

Lower Division Courses

1. Elementary Russian. (4) I. Mr. Masson
Elements of grammar and composition. Reading and conversation.

2. Elementary Russian. (4) II. Mr. Masson
Continuation of 1.

3. Intermediate Russian. (4) I. Mr. Masson

4. Intermediate Russian (continuation of Russian 3. Students may receive upper division credit for this course). (4) II. Mr. Masson

Upper Division Courses

115A–115B. Russian Realism of the Nineteenth Century. (2–2) I, II.
(See course description below). Mr. Masson

198. Readings in Russian Literature. (1–4) I, II. Mr. Masson

Spanish

(See page 208)

Foreign Literatures in English Translation

(Courses for which no knowledge of a foreign language is required)

Upper Division Courses

French 127A. Modern and Contemporary French Literature. (3) I, II.
Mr. Murray, Mr. Temmer

Readings in English translation of twentieth-century French poetry and prose: Valery, Apollinaire, Breton, Eluard, St. John Perse; Proust, Gide, Malraux, Mauriac, Camus.

French 127B. Modern and Contemporary French Literature. (3) I, II.
Mr. Murray, Mr. Temmer

Readings in English translation of twentieth-century French essays and drama: Valery, Maritain, Sartre; Claudel, Giraudoux, Anouilh, Beckett, Ionesco.

German 139A. Great Writers in German Literature. (3) I, II.
Mr. Linn, Miss Mahlendorf

Selected readings in English translation from the German classics, including certain works by Lessing, Schiller, Goethe.

German 139B. Great Writers in German Literature. (3) I, II.
Mr. Linn, Miss Mahlendorf

Selected readings in English translation from the romantic period to modern times, including certain works by Kleist, Büchner, Hölderlin, Hauptmann, Mann, Kafka, Rilke, Musil, Wedekind, and Brecht.

Russian 115A–115B. Russian Realism of the Nineteenth Century. (2–2) I, II. Mr. Masson

Reading and discussion in English of representative novels and short stories of Pushkin, Lermontov, Gogol, Turgenev, Goncharov, Dostoievski, Tolstoi, Chekhov, and others.

Related Courses in Other Departments

Education SF 190. Procedures in Teaching French in Secondary Schools. (2) I, II. Mr. Beachboard

Education SF 192A–192B. Student Teaching: French. (2–) I, II.
Mr. Beachboard

Philosophy 133. Philosophy of Language. (3) I. Mr. Wilkinson

Philosophy 146. Philosophy in Literature. (3) II. Mr. Sesonske

GEOLOGY

Robert W. Webb, Ph.D., *Professor of Geology.*
Henry R. Aldrich, Ph.D., Sc.D., *Visiting Professor of Geology.*
*Robert M. Norris, Ph.D., *Associate Professor of Geology (Chairman of the Department).*
Richard V. Fisher, Ph.D., *Assistant Professor of Geology.*
Donald W. Weaver, Ph.D., *Assistant Professor of Geology.*
C. Douglas Woodhouse, LL.M., *Assistant Professor of Mineralogy, Emeritus.*
William S. Wise, M.S., *Acting Assistant Professor of Geology.*
V. L. VanderHoof, Ph.D., *Research Associate in Geology.*

Counseling. Each entering student will be assigned an adviser who may be consulted on any matter pertaining to the student's University work. The adviser must approve the student's program each semester.

Field trips are required on occasion in all courses in the department.

Preparation for the Major

Required Courses	*Units*
Geology 2 or its equivalent. Concepts of Geology	3
Geology 3. Historical Geology	3
Geology 7. Physical Geology laboratory	1
Geology 8. Historical Geology laboratory	1
Mineralogy 6A–6B. Introduction to Mineralogy	4
Chemistry 1A–1B. General Chemistry	8
Physics 2A–2B. General Physics	8
Mathematics C, 3A–3B	6–8
Industrial Arts 6. Introduction to Cartography	2

Recommended: French, German, or Russian; Chemistry 5A; Mathematics 4A–4B.

The Major (30 units of upper division courses)

Required Courses	*Units*
Geology 102A–B–C. Field Geology	6
Geology 103A–103B. Petrology	4
Geology 104. Stratigraphy	3
Paleontology 111, 112	4
Geology 116. Structural Geology	3
Geology 118. Advanced Field Geology	6
Geology 184. Scientific Literature	1

An additional 3 units chosen from the following courses:

Mineralogy 109A–109B. Optical Mineralogy and Petrography	6
Geology 107. Geology of North America	3

Students electing geology courses in excess of 30 upper division units must offer corresponding units in excess of 120 for graduation. Geology 101 may not be included in the 30 upper division units required in the major for graduation.

The General Secondary Credential. The geology major can serve as a *physical science and general science* major for the purpose of obtaining a general secondary teaching credential. The *physical science and general science* teaching major must include courses in chemistry, physics and the biological sciences plus additional units in geology or other physical sciences to total 36 units.

* Absent on leave, 1961–1962.

The geology major can also serve as a basis for the *conservation of natural resources* general secondary credential provided a course in the biological sciences is included in the total of 36 units required.

For a list of the required courses in education, see page 110.

Requirements for the Minor. Geology 2, 3, 7, 8, or 101, 7, 8, plus an additional 12 or 15 units from courses in Geology, Mineralogy and Paleontology, but normally not to include Geology 184, 194 or 199.

Related Curriculum: Physical Science. Geology may be offered as one area of concentration for partially fulfilling the requirements of the interdepartmental major in physical science. See page 185 for details. An interdepartmental minor in physical science is available. Consult the adviser for the physical science major for details.

Geology

Lower Division Courses

2. Concepts of Geology. (3) I, II. The Staff

Lecture, three hours. No prerequisite. Not open to juniors and seniors without permission of the instructor.

A general education course in physical geology. Methods and principles, with emphasis on origin and development of the landscape.

3. General Geology: Historical. (3) I, II. The Staff

Lecture, 3 hours. Prerequisite: Geology 2.

Origin of the earth. Systematic study of earth history as interpreted from rocks and fossils; principles of evolution.

7. Physical Geology Laboratory. (1) I, II. The Staff

Laboratory, three hours. Prerequisite: Geology 2 or 101 (may be taken concurrently with either).

Identification of common minerals and rocks; topographic map study; field trips.

8. Historical Geology Laboratory. (1) II. The Staff

Prerequisite: Geology 2 and 7 or equivalent; should be taken concurrently with Geology 3.

Introduction to laboratory methods in paleontology and stratigraphy.

Upper Division Courses

101. Principles of Geology. (3) I, II. The Staff

Lecture, three hours. Prerequisite: any two courses in physical or biological science, but not open for credit to students who have had Geology 2 or 3.

A comprehensive survey of the principles of physical and historical geology, primarily for the general student.

102A–B–C. Field Geology. (2–2–2) II, I, II. The Staff

Prerequisite: Geology 116, Geology 103B (may be taken concurrently). 102A is prerequisite to 102B; 102B is prerequisite to 102C.

Geologic mapping; use of geologic field instruments and techniques; preparation of geologic maps and reports.

102A: laboratory, four hours; field trips alternate Saturdays, occasional week-end field trips. 102B: lecture, one hour; field work Saturdays; occasional week-end field trips; 102C: laboratory, field, 8–12 hours a week.

103A–103B. Introduction to Petrology. (2–2) Yr. Mr. Norris, Mr. Wise

Lecture, one hour; laboratory, three hours. Prerequisite: Mineralogy 6A, 6B; Chemistry 1A, 1B (may be taken concurrently).

Origins and characteristics of rocks. Hand lens identification.

104. Stratigraphy. (3) I. Mr. Fisher
Lecture, two hours; laboratory, three hours. Prerequisite: Geology 103B.
Relationship of sedimentation to tectonics. Sedimentary rock sequences and structures. Correlation and classification of stratigraphic units.

***105. Marine Geology.** (3) I. Mr. Norris
Prerequisite: Geology 3 or 101, and consent of the instructor.
Geologic processes in the sea; rocks and sediments of the sea bottom and the shoreline.

***107. Geology of North America.** (3) II. Mr. Norris, Mr. Webb
Lecture, three hours. Prerequisite: Geology 3 or 101.

108. General Economic Geology. (3) I. The Staff
Prerequisite: Geology 103A (may be taken concurrently).
Ore-forming processes, modes of occurrence, structure and types of ore bodies, both metallic and nonmetallic.

109. Geology of California. (3) II. Mr. Webb
Lecture, three hours. Prerequisite: Geology 3 or 101, and consent of the instructor.

116. Structural Geology. (3) I. Mr. Wise
Lecture, two hours; laboratory, three hours. Prerequisite: Mineralogy 6B (may be taken concurrently).
Deformation of the earth's crust; fracture, flow, and folding of rocks. Graphic solution of structural problems.

***117. Geomorphology.** (3) I. Mr. Norris, Mr. Webb
Lecture, three hours. Prerequisite: Geology 3 or 101, and consent of the instructor.

118. Advanced Field Geology. (6) Summers. The Staff
Six weeks, commencing with Summer Session. Prerequisite: Geology 102B; Geology 116.
Preparation of a geologic map, report, and sections of a selected region. May be taken at another approved institution provided permission is obtained in advance from the Department of Geology.

184. Scientific Literature. (1) I, II. The Staff
Discussion, one hour. Prerequisite: senior standing in the geology major.
Selected readings of the classical and historical papers in that field.

194. Readings in the Geological Sciences. (1) I, II. The Staff
Prerequisite: qualified seniors and consent of instructor.
Critical reviews and discussions of selected geological subjects.

199. Independent Studies in Geological Sciences. (1–4) I, II. The Staff
Directed individual field or laboratory problems, open to qualified seniors in the Geology Department.

Mineralogy

LOWER DIVISION COURSE

6A–6B. Introduction to Mineralogy. (2–2) Yr. Mr. Webb
Lecture, one hour; laboratory, three hours. Prerequisite: high school or college chemistry.
Determinative mineralogy and crystal morphology.

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* Not to be given, 1961–1962.

Upper Division Course

109A–109B. Optical Mineralogy and Petrography. (3–3) I, II. Mr. Wise
To be given 1961, 1963, 1965. Lecture, one hour; laboratory, six hours. Prerequisite: Mineralogy 6B; Geology 103B.
Optical properties of minerals; determination of minerals and rocks with the petrographic microscope; immersion methods.

Paleontology

Upper Division Course

111. Invertebrate Paleontology. (2) II. Mr. Weaver
Lecture, one hour; laboratory, three hours. Prerequisite: Geology 3 and 8 or 101 and 8.
The study of invertebrate fossils; a survey of the principles of taxonomy, evolution and chronology.

112. Stratigraphic Paleontology. (2) II. Mr. Weaver
Lecture, one hour; laboratory, three hours. Prerequisite: Geology 104, Paleontology 111.
The principles of biochronology; a study of the stratigraphic distribution of invertebrate fossils.

HISPANIC CIVILIZATION

Committee in Charge

Kurt Baer, Ph.D., *Professor of Art.*
Stephen S. Goodspeed, Ph.D., *Professor of Political Science.*
Philip W. Powell, Ph.D., *Professor of History.*
David Bary, Ph.D., *Assistant Professor of Spanish.*
Winston A. Reynolds, Ph.D., *Assistant Professor of Spanish (Chairman of the Committee).*

The interdepartmental major in Hispanic civilization is designed to serve the needs of the following students: (1) those planning careers which will necessitate residence in, or knowledge of, the countries of Spanish and Portuguese speech and culture—for example, government service, teaching, business, journalism; (2) students preparing for graduate study in the social sciences or languages and literature, with special emphasis in the Spanish, Portuguese, and Latin-American fields; (3) students preparing to teach Spanish in the elementary or, in some cases, secondary schools; (4) students desiring a general education with some emphasis in this particular area of Western culture. The geographical areas included in the scope of this major are Spanish-America, Brazil, Spain, and Portugal.

The following required courses, and those recommended, form a general guide. Selection of specific courses will be made by the student in consultation with the committee in charge, and this selection will be based primarily upon the needs and objectives of the individual student. Credit may be given for studies undertaken in Spanish, Portuguese, or Latin-American schools.

Lower Division Courses

Required Courses

Spanish 4 or equivalent (to be determined in consultation with the committee in charge).
History 8A–8B. History of the Americas.
History 60. Hispanic Civilization (Spain and Portugal).
History 61. Hispanic-American Civilization.

Recommended Courses

An additional 6 units chosen from the following courses:
Anthropology 1, 2; Economics 1A–1B; History 4A–4B; History 39; Sociology 1.

Upper Division Courses

Required Courses

A minimum of 24 units selected from the upper division courses in Spanish language and literature and the following: Anthropology 107; History 160, 162A–162B, 163, 166, 199; Political Science 148A–148B, 199; Art 115A–115B; Music 116.
Hispanic civilization may be elected as a minor. In this case the student will take 12 instead of 24 units in the upper division courses mentioned above.

HISTORY

A. Russell Buchanan, Ph.D., *Professor of History.*
Wilbur R. Jacobs, Ph.D., *Professor of History (Chairman of the Department).*
Philip W. Powell, Ph.D., *Professor of History.*
William H. Ellison, Ph.D., *Professor of History, Emeritus.*
Henry M. Adams, Ph.D., *Associate Professor of History.*
Donald M. Dozer, Ph.D., *Associate Professor of History.*
Immanuel C. Y. Hsu, Ph.D., *Associate Professor of History.*
John E. Flint, Ph.D., *Assistant Professor of History.*
C. Warren Hollister, Ph.D., *Assistant Professor of History.*
Robert L. Kelley, Ph.D., *Assistant Professor of History.*
Otey M. Scruggs, Ph.D., *Assistant Professor of History.*
George M. Haddad, Ph.D., *Acting Assistant Professor of History.*
Seymour L. Chapin, A.B., *Acting Instructor in History.*
Donald C. Davidson, Ph.D., *Lecturer in History.*
Wesley M. Gewehr, Ph.D., *Lecturer in History.*
Lawrence Kinnaird, Ph.D., *Lecturer in History.*

Preparation for the Major

Required:	*Units*
History 4A–4B. History of Europe	3–3
and either History 17A–17B. Political and Social History of the United States, or	
History 8A–8B. History of the Americas	3–3

The Major

Required: 24 units of upper division work in history, consisting of History 101, 6 units of European history, 6 units of United States or Hispanic-American history, and the remaining units selected in consultation with the student's adviser.

The Minor

See general education requirements.

The Master of Arts Degree

Students who have completed the undergraduate major in history, or the equivalent, will be recommended for admission to graduate work in history provided they meet the requirements.

Plan I. Thesis Plan. (Open only to students working in nineteenth-century development, or westward expansion of the United States.) Candidates under Plan I must meet the following requirements:

A. Foreign Language. The requirements as stated under Plan II.

B. Units of Work. Twenty-four units of upper division and graduate courses approved by the Department, including 4 units of thesis credit. At least 6 units of graduate seminars in history must be included.

C. Thesis. The thesis shall be the result of the student's original investigations on a topic approved by the instructor concerned.

D. Examination. A written examination in two fields taken at the same time as, and as part of, the master's comprehensive examination. The fields must be chosen from Group I and Group II.

Plan II. Comprehensive Examination Plan. Candidates under Plan II must meet the following requirements:

A. Foreign Language. A reading knowledge of a foreign language approved

by the Department of History. The Department recommends that this requirement be met in the first semester of graduate work and requires that it be met before the student takes any of the comprehensive examinations.

B. Units of Work. Twenty-four units of upper division and graduate courses approved by the Department. At least 12 units must be in graduate seminars in history. It is strongly recommended that the student begin seminar work in the first semester of graduate work.

C. Comprehensive Examination. A written examination in three of the fields listed below, including one field from each group.

Group I

Field 1: United States History to 1865.
Field 2: United States History after 1865

Group II

Field 1: European History to 1500.
Field 2: European History after 1500.

Group III

History of the United States

Field 1: Colonial and Revolutionary America.
Field 2: The Civil War and Reconstruction.
Field 3: The United States in the Nineteenth Century.
Field 4: History of American Foreign Relations.
Field 5: The American West.
Field 6: Recent History of the United States.
Field 7: American Intellectual History.

Hispanic-American History

Field 1: Hispanic America before Independence.
Field 2: Hispanic America after Independence.

Ancient History

Field 1: Greece: From Minoan-Mycenaean times to *ca.* 220 B.C.
Field 2: Rome: Republic and Empire.

Medieval History

Field 1: Byzantine History, 325–1453.
Field 2: Western Medieval History, 400–1300.

Modern European History

Field 1: Renaissance and Reformation.
Field 2: Europe in the Seventeenth, Eighteenth, or Nineteenth Centuries.
Field 3: English Background of the American Revolution.
Field 4: The Early Stuart Period and the Puritan Revolution.
Field 5: British Intellectual History.

Other Fields by Approval of the Master of Arts Examining Committee. An acquaintance solely with textbook information will not be adequate. Members of the departmental guidance committee will confer with students who expect to take the comprehensive examination to advise them of the department's expectations. The student is also advised to consult lists of recommended readings prepared by the department and to confer at the outset of his graduate work with instructors offering courses in the fields in which he proposes to

present himself for examination. The examination will ordinarily be given in October and in May, on dates announced by the chairman of the department.

Doctoral Program in History

Students planning to work toward the Ph.D. degree should consult with the department chairman concerning the doctoral program in American and Latin-American history.

Teaching Credentials, Teaching Majors, Teaching Minors

The manner in which the various teaching credentials may be obtained is governed by rules laid down by the California State Board of Education. Requirements for majors and minors in the *social studies* for general secondary and junior high school teaching credentials are listed on pages 200 and 201 under the heading, "Social Sciences."

Combination Social Sciences Major

Students interested in obtaining a major in the combined social sciences, see the listing under "Social Sciences," page 200.

Hispanic Civilization

See page 135

History

LOWER DIVISION COURSES

4A–4B. History of Europe. (3–3) Yr. Mr. Adams, Mr. Hollister
European civilization from ancient times to the present.
Two lectures, one quiz section per week. Not open to juniors or seniors except by permission of the instructor. 4A, Ancient and Medieval Civilizations, is prerequisite to 4B, Modern Civilization.

8A–8B. History of the Americas. (3–3) Yr. Mr. Dozer, Mr. Powell
The Western Hemisphere from discovery to the present.
8A. Exploration, settlement, institutions, frontier expansion, imperial rivalries.
8B. Independence achievement, evolution of nationalities, inter-American relationships, relations with Europe and Asia.

17A–17B. Political and Social History of the United States. (3–3) Yr.
The evolution of American institutions and civilization. The Staff
For ways of satisfying the requirement in American History and Institutions, see pages 62 and 63.

19. History of the Far East. (3) I, II. Mr. Hsu
A survey of the history and civilizations of Eastern Asia.

39. History of California and the Pacific Coast. (3) II. Mr. Buchanan

53A–53B. History of England. (3–3) I, II. ———
The history of England from earliest times to the present.

60. Hispanic Civilization. (3) I. Mr. Powell
Social, cultural, and politico-economic elements in the formation of Spain and Portugal, from ancient times to the present.

61. Hispanic-American Civilization. (3) II. Mr. Powell
Social, cultural, and politico-economic patterns of the Spanish-American and Brazilian ways of life.

Upper Division Courses

101. The Study and Methods of History. (3) I, II. The Staff
Prerequisite: upper division major in history.
Required of and restricted to history majors, to be taken in the junior year if possible.

103. History of Europe in the Eighteenth Century. (3) II. Mr. Adams
Prerequisite: History 4A–4B or equivalent.
A study of European civilization in the eighteenth century, with special emphasis upon institutions, ideas, and cultural forms distinguishing the century.

110. Ancient Near East. (3) I. Mr. Haddad
Prerequisite: History 4A or equivalent.
The genesis of Western civilization: our cultural debt to the ancient Babylonians, Egyptians, Hittites, Phoenicians, Aramaeans, Hebrews, Assyrians, and Persians.

111. Greece. (3) II. Mr. Haddad
Prerequisite: History 4A or equivalent.
The Greek world to about 220 B.C.

112. Rome. (3) I. Mr. Haddad
Prerequisite: History 4A or equivalent.
From the foundation to 395 A.D.

113A–113B. History of Europe in the Nineteenth and Twentieth Centuries. (3–3) Yr. Mr. Adams
Prerequisite: History 4A–4B or equivalent. Course 113A is prerequisite to 113B.
European civilization in the nineteenth and twentieth centuries; interrelationship of the centuries and of Europe to the world.

115. The Middle East in the Middle Ages. (3) II. Mr. Haddad
Prerequisite: History 4A–4B or equivalent.
The Christian and Muslim world 395 to 1453, including a study of the Byzantine Empire, its grandeur, decline and fall and its contributions to civilization along with a study of the history and civilization of the neighboring Islamic countries.

121. Medieval Europe, 300–1050. (3) I. Mr. Hollister
Prerequisite: History 4A–4B or equivalent.
The political, economic, and cultural evolution of Europe from the time of Constantine to the mid-eleventh century.

122. Medieval Europe, 1050–1350. (3) II. Mr. Hollister
Prerequisite: History 4A–4B or equivalent.
European civilization during the High Middle Ages. The struggle between Church and State, the rise of feudal monarchies, the revival of commerce, and the flowering of medieval culture.

122C. Problems in Medieval History. (3) II. Mr. Hollister
A senior seminar limited in size. Admission by consent of the instructor.

131A–131B. The British Empire and Commonwealth. (3–3) I, II. ———
Prerequisite: History 4A–4B, or History 53A–53B.
The rise of the British Empire. Expansion, colonialism, and the growth of the British Commonwealth of Nations.

139. The Middle East in the 19th and 20th Centuries. (3) I, II. Mr. Haddad
The Ottoman Empire and the Eastern Question 1798–1923. Reform movements, cultural and national awakening, and the impact of the west in Iran, Turkey, and the Arab countries. Zionism and Israel. Problems and tensions in the area since 1945.

141. The Renaissance and Reformation. (3) II. ———
Prerequisite: History 4A–4B or equivalent.
The political, economic, and cultural evolution of Europe, 1350–1648.

150. History of Russia. (3) II. ———
Prerequisite: History 4A–4B or equivalent.
Russian civilization from the sixteenth century to the present; the importance of Russian history to an understanding of contemporary Russia.

153A–153B. History of England. (3–3) I, II. ———
The history of England from earliest times to the present.

***155. History of Canada.** (3) I, II. Mr. Davidson
From Cartier to the present with emphasis upon British and Western Hemisphere influences.

157. Intellectual History of Great Britain. (3) I. Mr. Kelley
Prerequisite: History 4A–4B or equivalent, or consent of the instructor.
The development of ideas and attitudes from the Middle Ages to the present, with emphasis upon their interaction and their impact upon British society. Forms a year sequence with History 177.

160. History of Spain. (3) I. Mr. Powell
From earliest times to the present. Emphasis on Middle Ages, Renaissance, and Golden Age.

162A–162B. Hispanic-American History. (3–3) Yr. Mr. Dozer, Mr. Powell
162A. Spanish and Portuguese exploration, colonization, and institutional development (to about 1810).
162B. Independence achievement, struggle toward nationalities, cultural developments, and international relationships.

***163. History of Brazil.** (3) II. Mr. Powell
Prerequisite: upper division standing.
From the Portuguese discovery to the present. Emphasis on the blending of Indian, European, and African cultures to form the Brazilian nation.

166. History of Mexico. (3) I. Mr. Powell
From pre-Columbian times to the present. Integration of European and native cultures to form the Mexican nation.

168. History of Inter-American Relations. (3) I, II. Mr. Dozer
Prerequisite: upper division standing.
History of the relations of the Hispanic American nations among themselves and with the United States since independence and of projects for inter-American regional cooperation including the Pan American movement.

171. Colonial and Revolutionary America. (3) I. Mr. Jacobs
Prerequisite: History 17A–17B, an equivalent course, or consent of the instructor.
Political and social history of the thirteen colonies, their neighbors, westward expansion, beginnings of culture, and the American Revolution.

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* Not to be given, 1961–1962.

173A–173B. History of the United States in the Nineteenth Century. (3–3) Yr. Mr. Scruggs
Prerequisite: History 17A–17B, an equivalent course, or consent of the instructor.
173A. Political, economic, and social development of the United States from 1789 to 1860.
173B. Political, economic, and social development of the United States from 1860 to 1900.

173C. Problems in Nineteenth-Century United States History. (3) II. Mr. Scruggs
A senior seminar, limited in size. Admission by consent of the instructor.

174A–174B. Recent History of the United States. (3–3) I, II. Mr. Buchanan
Prerequisite: History 17A–17B, an equivalent course, or consent of the instructor.
Political, economic, and social development of the United States from 1900 to the present time.

175A–175B. History of the Foreign Relations of the United States. (3–3) I, II. Mr. Dozer
Prerequisite: History 17A–17B, an equivalent course, or consent of the instructor.
The diplomatic history of the United States.

177. Intellectual History of the United States. (3) II. Mr. Kelley
Prerequisite: History 17A–17B, an equivalent course, or consent of the instructor.
The development of ideas and attitudes from the colonial period to the present, with emphasis upon their interaction and their impact upon American society. Forms a year-sequence with History 157.

177C. Problems in United States Intellectual History. (3) I. Mr. Kelley
A senior seminar limited in size. Admission by consent of the instructor.

180. Studies in Far Eastern History. (3) I, II. Mr. Hsu
An introduction to research on history.

181. The American West. (3) II. Mr. Jacobs
Prerequisite: History 17A–17B, an equivalent course or consent of the instructor.
The West as a frontier and as a region, in transit from the Atlantic seaboard to the Pacific, and from the seventeenth century to the present.

184. History of China. (3) I, II. Mr. Hsu
Chinese civilization from ancient times to the beginning of the modern age.

185. History of Japan. (3) I, II. Mr. Hsu
Japanese civilization from ancient times to the beginning of the modern age.

186A–186B. Modern Far East. (3–3) I, II. Mr. Hsu
186A. The Far East in the Nineteenth Century.
186B. The Far East in the Twentieth Century.

196A–196B. History of the Indian Subcontinent. (3–3) I, II. Mr. Metcalf
History of the South Asian subcontinent from earliest times and the founding of the Mughal Empire through the eras of European expansion, British rule, and the nationalist movement, to the present.

199. Independent Studies in History. (1–4) I, II. The Staff
Admission by special arrangement.

GRADUATE COURSES

201. Advanced Studies in the Sources and General Literature of the Several Fields of History. (3) I, II. The Staff

202. Historiography and Bibliography. (3) I, II. ———

211. The Hellenistic-Roman Near East. (3) II. Mr. Haddad
Prerequisite: History 110, 111, or 112.
Study of the Hellenistic monarchies, their decline and the spread of Roman rule in the Near East; the Hellenization of the East and the various aspects of Greco-Roman culture in the area, and of Eastern culture in Greece and Rome.

221. Seminar in Medieval History. (3) I, II. Mr. Hollister
Prerequisite: History 122: Medieval Europe, 1050–1350.
Training in research and writing in the subject of medieval history. Each student will be expected to write a research paper on some selected topic during the term.

***258. Seminar in Modern European History.** (3) I. ———

***266. Seminar in Mexican History.** (3) II. Mr. Powell

271. Seminar in the History of the American West. (3) I. Mr. Jacobs

273. Seminar in the Civil War and Reconstruction. (3) II. Mr. Buchanan

283. Seminar in the History of Inter-American Relations. (3) II. Mr. Dozer
Prerequisite: reading knowledge of a foreign language, preferably Spanish, Portuguese, or French.

290. Seminar in U. S. Relations with the Far East. (3) II. Mr. Hsu
Prerequisite: History 186A or 186B.
A research seminar in the discipline of diplomatic history, with particular emphasis on the role of the United States in the development of the modern Far East.

299. Directed Research. (2–4) I, II. The Staff
Prerequisite: graduate standing and consent of the instructor.

* Not to be given, 1961–1962.

HOME ECONOMICS

Charlotte E. Biester, Ed.D., *Professor of Home Economics.*
Evelyn M. Jones, Ph.D., *Professor of Home Economics.*
Alice V. Bradley, M.A., *Professor of Home Economics, Emeritus.*
Winifred M. Frye, B.S., *Professor of Home Economics, Emeritus.*
Florence C. Meredith, M.A., *Professor of Home Economics, Emeritus.*
Lucille A. Hunt, Ph.D., *Associate Professor of Home Economics (Chairman of the Department).*
Ruth Major, Ph.D., *Associate Professor of Home Economics.*
———, *Associate Professor of Home Economics.*
Charlene D. Palmer, Ed.D., *Assistant Professor of Home Economics.*
———, *Assistant Professor of Home Economics.*
Barbara A. Bentley, A.B., *Assistant in Home Economics.*
Ella E. Hendrick, A.B., *Assistant in Home Economics.*
*Marion P. Alves, M.A., *Lecturer in Home Economics.*
Norah M. Clancy, Ph.D., *Lecturer in Home Economics.*
Mary K. Wilson, Ph.D., *Lecturer in Home Economics.*

Preparation for the Major

Required Courses

Outside the Department	*Units*
Physics 20. Concepts of Physics	3
Chemistry 20. Introductory Chemistry	3
Chemistry 21. Laboratory in Introductory Chemistry	1
Chemistry 40. Fundamentals of Organic Chemistry	3
Chemistry 41. Laboratory in Organic Chemistry	1
Biology 1A. Fundamentals of Biology	4
Economics 1A. Principles of Economics	
or	
Economics 109. Introduction to Economics	3
Philosophy 1. Short Introduction to Philosophy	3
Art 31. Design and Color	2
Sociology 120. Marriage and the Family	3
or	
Health Education 108. Preparation for Marriage and Parenthood	2
Art electives (upper division)	4
and additional courses to complete the requirements listed on pages 65 and 66.	

Within the Department	
Home Economics 9. Elementary Foods and Nutrition	3
Home Economics 13. Child Development	2
Home Economics 15. House Interiors and Furnishings	3
Home Economics 90. Textile Study	3
Home Economics 93. Clothing Selection	2
or	
Home Economics 95. Fundamental Principles of Clothing Construction	2

Requirements for the Major

Home Economics 100. Advanced Food Study	3
Home Economics 103A. Nutrition and Dietetics	3
Home Economics 133. Child Development Laboratory	2

* Absent on leave 1961–1962.

	Units
Home Economics 140. Home Management Principles	2
Home Economics 141. Consumers and Markets	2
or	
Home Economics 14. Family Economics	2
Home Economics 142. Home Management Laboratory	2
Home Economics electives	13

Chosen to satisfy special interest or to fulfill the home economics course requirements for American Dietetics Association internship, the special secondary credential, or the general secondary credential.

Requirements for the American Dietetics Internship

May be met by means of an appropriate combination of courses from both home economics and the physical or biological sciences selected with the approval of the departmental adviser.

Requirements for the Minor

Twenty units which include:	*Units*
Home Economics 9. Elementary Foods and Nutrition	3
Home Economics 10. Elements of Nutrition	2
or	
Home Economics 103A. Nutrition and Dietetics	3
Home Economics 15. House Interiors and Furnishings	3
Home Economics 90. Textile Study	3
or	
Home Economics 95. Fundamental Principles of Clothing Construction	2

and additional elective courses in upper division chosen with the approval of the department chairman.

The Special Secondary Credential

Required Courses	*Units*
Home Economics 101. Analysis of Clothing Construction	3
Home Economics 125. Principles of Demonstration	2
Education 110. Educational Psychology	3
Education 112. Growth and Development of the Adolescent	2
Education 117. Pupil Personnel and Counseling	2
Education 147. Audio-Visual–Radio Education	2
Education 170. Secondary Education	3
Education H 190. Teaching Procedures	2–3
Education H 192A–B–C. Student Teaching: Homemaking	6

The General Secondary Credential

Content Requirements

1. A major in home economics which includes Home Economics 101 (3 units) and Home Economics 125 (2 units).
2. A minor in one of the areas represented by the fine arts, social sciences, humanities, or natural sciences is required.
3. The education courses listed on page 110.

Requirements for Art and Home Economics Major

A major is available to students who wish to fulfill the 40-unit requirement by means of an appropriate combination of courses selected from two areas: art and home economics. See page 82.

Lower Division Courses

9. Elementary Foods and Nutrition. (3) I, II. Miss Major
Scientific study of foods and nutrition as related to selection, purchase, preparation and service of food.

10. Elements of Nutrition. (2) I, II. Miss Jones
Open to nonmajors. Normal human nutrition.

13. Child Development. (2) I, II. Miss Clancy
Observations in well-baby clinics and nursery schools.
Physical, emotional, and social needs of the infant and young child in relation to his membership in the family.

14. Family Economics. (2) II. Miss Biester
Economic factors involved in utilization of consumer goods.

15. House Interiors and Furnishings. (3) I. ———
Two lectures; one three-hour laboratory. Prerequisite: Art 31, or consent of the instructor.
Functional and esthetic factors influencing interiors and furnishings for family homes.

90. Textile Study. (3) I, II. ———
Textile fibers and the fabrics made from them; historical background, production, and manufacture; understanding and evaluation of new fibers, new fabrics, and new finishes.

93. Clothing Selection. (2) I, II. ———
Two lectures.
An analysis of fundamental art principles involved in clothing selection.

95. Fundamental Principles of Clothing Construction. (2) I, II. Mrs. Hunt
One lecture; one three-hour laboratory. Prerequisite: Home Economics 90.
Clothing construction based upon textile and design principles.

Upper Division Courses

100. Advanced Food Study. (3) I. Miss Major
Prerequisite: Chemistry 40, 41 or equivalent, Home Economics 9, Physics 20.
A technical study of food preparation.

101. Analysis of Clothing Construction. (3) I, II. ———
Two lectures; one three-hour laboratory. Prerequisite: Home Economics 95 or equivalent.
The relationship of design principles, properties of fabrics, and human anatomical structure to the creation of personalized apparel. Comparative study of textural treatment and effects through analysis and experimentation.

102. Experimental Food Study. (3) II. Miss Major
One lecture; two three-hour laboratories. Prerequisite: Home Economics 9, 100, Chemistry 40, 41.
Qualitative and quantitative methods in food preparation under controlled conditions.

103A. Nutrition and Dietetics. (3) I. Miss Jones
Two lectures; one three-hour laboratory. Prerequisite: Home Economics 9, Chemistry 40, 41.
Normal nutrition; metabolism of all food groups, calculation and preparation of diets to meet the nutritional and economic needs of the family.

103B. Nutrition and Dietotherapy. (3) II. Miss Jones
Prerequisite: Home Economics 103A, Biology 108A.
Modification of normal diet for specific diseases; case problems; use of basal and bomb calorimeters. Critical analyses, nontechnical nutritional data.

104. Household Equipment. (2) I, II. Mrs. Wilson
Prerequisite: Physics 20, Home Economics 9.
A study of the scientific principles involved in the selection, use, and care of household equipment.

105. Advanced Dress Design. (2) I. Mrs. Hunt
Prerequisite: Home Economics 95, Art 31.
A study of the esthetic, physical, and psychological effects of clothing design. Creative design through draping and flat pattern.

109. Recent Findings in Nutrition. (2) II. Miss Jones
Prerequisite: Home Economics 103A or equivalent.
Reviews and discussions of scientific literature; modern trends.

***111A. Clothing Economics.** (3) I. Miss Biester
Prerequisite: Economics 1A or Economics 109.
Interpretation and application of the principles of economics to the solution of clothing problems of individuals and family members.

111B. Clothing Economics. (3) II. Miss Biester
Prerequisite: Economics 1A or Economics 109.
Contemporary problems of production and distribution of textiles and clothing affecting individuals and members of the family group.

125. Principles of Demonstration. (2) I, II. Miss Biester
Prerequisite: Home Economics 100.
The selection, organization, and presentation of material for professional home economics demonstrations. Prerequisite to Education H 192A–B–C.

133. Child Development Laboratory. (2) I, II. Miss Clancy
One lecture; one three-hour laboratory. Prerequisite: Home Economics 13.
Interpretation of child-care principles through participation in an organized program of work with preschool children.

134. Institutional Management. (3) II (Alternate with 135). Mrs. Hendrick
Two lectures; one three-hour laboratory. Prerequisite: Home Economics 9, 100, 103A.
Emphasis on the scientific administration of all types of institutions and industrial laboratories in relationship to employer-employee problems; record control; selection and arrangement of equipment.

135. Institutional Food Problems. (3) II (Alternate with 134). Mrs. Hendrick
Two lectures; one three-hour laboratory. Prerequisite: Home Economics 9, 100, 103A.
Principles and problems involved in the selection, purchase, preparation and service of food for institutions.

140. Home Management Principles. (2) I, II. Mrs. Wilson
Analytical study of family managerial problems involving material and human resources.

***141. Consumers and Markets.** (2) I. Miss Biester
Prerequisite: Economics 1A or 109 and senior standing.
Markets and conditions basic to the solution of consumer problems in the selection of goods.

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* Not to be given, fall, 1961.

142. Home Management Laboratory. (2) I, II. Mrs. Wilson
Prerequisite: Home Economics 100, 103A, 140.
Students organized as a family group live in the Home Management House and solve homemaking problems in connection with food preparation and serving, housekeeping, household finance, hospitality, and satisfactory human relationships.

150. Family Housing. (3) II. ———
Two lectures; one three-hour laboratory. Prerequisite: Art 31, or consent of the instructor.
Historic, esthetic, economic, and functional aspects of family dwellings; appraisal of house plans in terms of optimum family living.

164. Current Developments in Textiles. (3) II. ———
Prerequisite: Home Economics 90.
Analysis and interpretation of progress in textile fiber synthesis, yarn construction and fabric finishing.

***194. Group Studies for Advanced Students.** (2) I, II. Miss Biester
For majors.
Understanding and evaluating individual and group reactions; contributions made by home and community leaders to civic programs.

199. Independent Studies in Home Economics. (1–4) I, II. The Staff
For majors.

Related Courses in Another Department

Education H 190. Teaching Procedures in Home Economics. (2–3) I, II. Mrs. Palmer

Education H 192A–B–C. Student Teaching: Homemaking. (2–2–2) I, II. Mrs. Palmer

Art and Home Economics

See page 82

* Not to be given, fall, 1961.

INDUSTRIAL ARTS

Lynne C. Monroe, Ed.D., *Professor of Industrial Arts.*
Ralph K. Nair, Ed.D., *Professor of Industrial Arts.*
Roy L. Soules, M.S., *Professor of Industrial Arts, Emeritus.*
Darvey E. Carlsen, M.S., *Associate Professor of Industrial Arts.*
John M. Groebli, Ph.D., *Associate Professor of Industrial Arts.*
William F. Holtrop, Ed.D., *Associate Professor of Industrial Arts.*
John A. McClure, Ph.D., *Associate Professor of Industrial Arts.*
Robert A. McCoy, Ed.D., *Associate Professor of Industrial Arts.*
Harold J. Miller, Ed.D., *Associate Professor of Industrial Arts.*
Maurice F. Richards, Ph.D., *Associate Professor of Industrial Arts.*
Joseph J. Sayovitz, Ph.D., *Associate Professor of Industrial Arts (Chairman of the Department).*
Paul L. Scherer, Ed.D., *Associate Professor of Industrial Arts.*
Louie S. Taylor, Ed.D., *Associate Professor of Industrial Arts.*
Theodore S. Ellenwood, Ed.D., *Assistant Professor of Industrial Arts.*
Clyde Keener, Ed.D., *Assistant Professor of Industrial Arts.*
Fred L. Griffin, A.B., *Assistant Professor of Industrial Arts, Emeritus.*

The Department of Industrial Arts includes the fields of industrial arts and industrial management which lead to the Bachelor of Arts degree.

Philosophy and Objectives

Industrial arts is the study of and the experimentation with problems, processes, and products of industry. Students define problems, postulate solutions both by design and written description, develop solutions and then test products or manufacturing principles for validity. Creativity and originality are necessary concomitants. Sketching and design become the medium for thinking and communication, while the actual product developed experimentally tests the idea. The application of art and engineering to industry for the purpose of achieving greater beauty and utility at less cost is the objective of the discipline. Both general and specialized education are offered through experience in theory and practice. The foundation for these experiences is more than two years of general studies taken in various departments of the University.

Majors

Curriculum for the Special Secondary Credential

General Requirements. All majors in the department must satisfy the requirements listed on pages 65 and 66.

Preparation for the Major	*Units*
I.A. 1. Freehand Drawing Fundamentals	2
I.A. 5. Engineering Drafting Fundamentals	3
I.A. 10. Graphic Reproduction Fundamentals	3
I.A. 50. Metal Fundamentals	3

The Major. Completion of 29 units in upper division courses, which must include the following 11 units:

I.A. 105A. Industrial Arts Design	2
I.A. 130A. Transportation	3
I.A. 140. Wood Fundamentals	3
I.A. 160. Electricity—Fundamentals	3

Electives: 18 units of industrial arts courses to be selected with advice of counselor.

In order to qualify for recommendation by the department for the teaching credential, the candidate must pass the stipulated speech test (if a transfer course in speech has been accepted) or Speech 11; complete the proficiency tests before being assigned to student teaching; and have an average scholarship grade of C or higher in all courses completed in industrial arts. The applicant for the credential must also pass the required physical examination of the University after having passed 45 units.

Curriculum for the General Program

General Requirements. In addition to the requirements listed on pages 65 and 66, students in this major must complete Mathematics 3A, Philosophy 1, Art 31 and an art elective.

Preparation for the Major	*Units*
I.A. 1. Freehand Drawing Fundamentals	2
I.A. 5. Engineering Drafting Fundamentals	3
I.A. 10. Graphic Reproduction Fundamentals	3
I.A. 50. Metal Fundamentals	3

The Major. Completion of 29 units in upper division courses, which must include the following 24 units:

I.A. 105A. Industrial Arts Design	2
I.A. 102A. House Design and Planning	
or	
I.A. 106. Machine Drawing and Design	3
I.A. 114A. Photography	3
I.A. 122A. Crafts	3
I.A. 130A. Transportation	3
I.A. 140. Wood Fundamentals	3
I.A. 160. Electricity—Fundamentals	3
I.A. 171A–171B. Manufacturing Processes	4

Electives: 5 additional units of industrial arts courses to be selected with advice of counselor.

Curriculum for Industrial Management

General Requirements. In addition to the requirements listed on pages 65 and 66, the following courses are required: Mathematics 3A, modern foreign language (Spanish preferred) through course 1 and 2†, Economics 1A–1B, 6A–6B, and 2 or Psychology 5, and 150 or 152 or Sociology 160, and controlled electives. Specific courses to fulfill the requirements are listed on the major requirements list.

Preparation for the Major	*Units*
I.A. 5. Engineering Drafting Fundamentals	3
Cognate Courses	
Mathematics 3A. Analytic Geometry and Calculus *or* Mathematics 32	3
Chemistry 20. Introductory Chemistry	3
Chemistry 21. Laboratory in Introductory Chemistry	1
Economics 1A–1B. Principles of Economics	6

† The students in this program are required to have a reading knowledge of a modern foreign language, Spanish preferred. This requirement may be met through an examination given by the Department of Foreign Languages or through modern language courses 1 and 2 (8 units). Two years of one high school language meets 4 units of this requirement (providing the same language is continued in college) or three years of one high school language completes the requirement without examination. If the requirement is completed courses may be selected from art, biological sciences, foods, clothing, woodworking, metalworking, industrial design, photography, printing, mathematics, physics, chemistry, geology, psychology and/or economics.

	Units
Economics 6A–6B. Principles of Accounting	6
Economics 2. Elementary Statistics	
or	
Psychology 5. Introduction to Psychological Measurements.	3

The Major

	Units
I.A. 105A. Industrial Arts Design	2
I.A. 171A–171B. Manufacturing Processes	4
I.A. 172. Personnel Management	3
I.A. 173. Industrial Relations	3
I.A. 176A–176B. Industrial Planning: Industrial Control	6
I.A. 178. Motion and Time Study	3
I.A. 175. Industrial Supervision	2
Industrial Arts laboratory courses i.e., Electricity	9

Minor

No fewer than 20 semester units of industrial arts are required for a minor, 6 units of which must be in upper division courses. The selection of courses is subject to the approval of the Chairman of the Department of Industrial Arts or his representative. Courses in the Department of Industrial Arts may be selected by students in other departments according to their needs and interests, provided the prerequisites for such courses are satisfied.

The General Secondary Credential, Teaching Major

1. The general secondary credential is offered in the Department of Industrial Arts with a suitable minor for those desiring this credential. Complete the requirements for the Bachelor of Arts degree with a major in industrial arts, or its equivalent, and, in addition, six units from any of the following courses:

	Units
I.A. 245. History of Industrial Arts	2
I.A. 247. Philosophy of Industrial Arts	2
I.A. 299A–299B. Research	2–2

and one upper division class elected with approval of the departmental chairman or his administrative representative.

2. A minor in one of the areas represented by the fine arts, social sciences, humanities, or natural sciences is required.

3. Requirements in the Department of Education are listed on page 110.

Instruction in Industrial Arts is being discontinued at Santa Barbara in accordance with an announcement by the Regents in the fall of 1958. Discontinuance implements the general educational policy of the University and the State Department of Education with regard to division of responsibility among California's junior colleges, state colleges, and the University. The schedule, as stated below, is for the guidance of students and counselors:

Fall 1959—latest date of admission for freshman students or sophomores desiring the general secondary credential.

Fall 1960—latest date of admission for sophomore students or juniors desiring the general secondary credential.

Fall 1961—latest date of admission for junior students or seniors desiring the general secondary credential.

Fall 1962—latest date of admission for senior students.

All students must complete their work in the Department of Industrial Arts before the close of summer session 1963 or plan to transfer to another institution to complete their work.

Lower Division Courses

1. Freehand Drawing Fundamentals. (2) I, II. Mr. McCoy
Analysis of techniques, materials, and methods of graphic representation. Includes solutions of problems in one and two point perspective and isometric. Lecture, laboratory.

5. Engineering Drafting Fundamentals. (3) I, II. Mr. Miller
The investigation of the means used by engineers to communicate their ideas to others. All phases of orthographic presentation including data and systematic problem solution. Lecture, laboratory.

6. Introduction to Cartography. (2) II. Mr. Miller
Review of principles of drawing. Topographical drawing involving stadia, details, contours, elevations, symbols, sketching and pictorial rendering. For majors in other fields. Lecture, laboratory.

10. Graphic Reproduction Fundamentals. (3) I, II. Mr. Carlsen
Design and composition in fundamental graphic arts processes. Lecture, laboratory, field trips.

45. Expressive Craft Activities for Elementary Schools. (2) I, II.
Not open to majors in industrial arts. Lecture, laboratory. Mr. Holtrop

50. Metal Fundamentals. (3) I, II. Mr. Taylor
Design, processes and techniques of metal as a material of industry. Lecture, laboratory.

Upper Division Courses

102A. House Design and Planning. (3) I. Mr. Scherer
A general appreciation course dealing with the development, planning and esthetic qualities of the family dwelling. Lecture, laboratory.

102B. House Design and Planning. (3) II. Mr. Scherer
Prerequisite: I.A. 102A.
Detailed study of foundation, framing, and finishing. Construction of the architectural model to correspond with plans and the landscaping of the lot. Lecture, laboratory.

105A. Industrial Arts Design. (2) I. Mr. Scherer
Objective analysis and interpretation of data in the solution of design problems. Lecture, laboratory.

105B. Industrial Arts Design. (2) II. Mr. Scherer
Prerequisite: I.A. 105A.
Analyzing, creating and developing design ideas for the solving of specific three-dimensional design problems related to industrial arts. Lecture, laboratory.

106. Machine Drawing and Design. (3) I. Mr. Miller
Relation of drawing to the design systems using levers, gears and cams or other mechanical devices. Solution of original design problems. Analysis of stress, strength of materials, and factors of friction and vibration. Lecture, laboratory, field trips.

110. Typography. (3) II. Mr. Carlsen
Traditional and contemporary styles in composition of printing. Lecture, laboratory, field trips.

112A. Graphic Arts—Offset Lithography. (3) I. Mr. Carlsen
Prerequisite: I.A. 110.
The chemistry of photography and plate preparation. Reproduction of line halftone and color copy by photolithographic process. Lecture, laboratory.

112B. Graphic Arts—Machine Composition. (3) II. Mr. Carlsen
Prerequisite: I.A. 110.
Analysis and layout of copy for composition and its application to mechanical composition. Lecture, laboratory.

114A. Photography. (3) I. Mr. McCoy
Techniques and procedures in photography. Lecture, laboratory, field trips.

114B. Photography—Composition and Color. (3) II. Mr. McCoy
Lecture, laboratory, and field trips.

122A–122B. Crafts. (3–3) I, II. Mr. Richards
Designing, planning and experimentation with all types of handicraft media. Lecture, laboratory.

128. Model Design and Development. (3) I. Mr. Richards
Lecture, laboratory, field trips.

130A. Transportation. (3) I, II. Mr. Keener, Mr. Richards
Historical developments in transportation. Lecture, field trips.

130B. Transportation. (3) II. Mr. Keener
Theory, principles and development of modern transportation. Lecture, laboratory, field trips.

132A. Power Mechanics. (3) I, II. Mr. Keener
The study of sources of power and machines used in its development. Lecture, laboratory, field trips.

132B. Power Mechanics. (3) II. Mr. Keener
Study and analysis of automotive systems. Lecture, laboratory, field trips.

140. Wood Fundamentals. (3) I, II. Mr. Ellenwood, Mr. Holtrop
Design processes and techniques applied to wood as a material of industry. Lecture, laboratory.

141. Wood—Machine. (3) I, II. Mr. Ellenwood
Prerequisite: I.A. 5 and I.A. 140.
Design techniques utilized in the machine processing of wood. Lecture and laboratory.

144A–144B. Wood—Furniture. (3–3) I, II. Mr. Ellenwood
Prerequisite: I.A. 141.
Design and development of period and contemporary furniture. Lecture, laboratory.

144C. Wood—Experimental. (3) II. Mr. Ellenwood
Study and application of new developments in wood. Lecture, laboratory.

145. Integrated Craft Activities for Elementary Schools. (2) I, II.
The Staff
Sections are available for various grade levels. Not open to majors in industrial arts. Lecture, laboratory.

151. Metals—Machine Processes. (3) II. Mr. Taylor
Introductory use of metal processing machines. Lecture, laboratory.

155A. Metals—General. (3) I. Mr. Taylor
Metal fabrication and molding. Lecture, laboratory.

155B. Metals—Design and Development. (3) II. Mr. Taylor
Design and development of individual and group problems in metal. Lecture, laboratory.

155C. Metals—Experimental. (3) II. Mr. Taylor
Solution of metal processing problems. Lecture, laboratory, field trips.

158. General Industrial Arts Laboratory. (3) I, II. Mr. Groebli
An introduction to the materials, methods and tools of the modern industrial society. Open to nonmajors. Lecture, laboratory.

160. Electricity—Fundamentals. (3) I, II. Mr. Sayovitz
Prerequisite: Physics 20 or equivalent.
Introduction to principles, correlated with the use of instruments, apparatus and materials. Lecture, laboratory.

161A. Electricity—Direct Currents. (3) I. Mr. Sayovitz
Prerequisite: I.A. 160.
Theory, design and applications of direct current circuit concepts and apparatus. Lecture, laboratory.

161B. Electricity—Alternating Currents. (3) II. Mr. Sayovitz
Prerequisite: I.A. 160.
Theory, design and applications of alternating current circuit concepts and apparatus. Lecture, laboratory.

162A. Electronics—Radio. (3) I. Mr. Sayovitz
Prerequisite: I.A. 160.
Introduction to the principles utilized in the reception of radio frequency transmissions. Lecture, laboratory.

162B. Electronics—Radio. (3) II. Mr. Sayovitz
Prerequisite: I.A. 162A.
Design and operating characteristics involved in the generation and transmission of radio frequency energy. Lecture, laboratory.

162C. Electronics—Television. (3) I. Mr. Sayovitz
Prerequisites: I.A. 160 and I.A. 162A.
Theory and application of electronic circuitry to the area of television. Laboratory application to closed circuit television apparatus. Lecture, laboratory.

170. Estimating and Buying of Industrial Materials and Equipment. (3) II. Mr. Miller
Specifications, purchase orders, contracts and bids. Estimating and calculating costs of materials and equipment.

171A–171B. Manufacturing Processes. (2–2) I, II. Mr. Nair, Mr. McClure
Materials and processes of modern metal production and processing industries. Includes field trips to selected manufacturing plants. For management majors.

172. Personnel Management. (3) I. Mr. McClure
Prerequisite: Psychology 1; Economics 2 or Psychology 5.
Organization planning, staffing and development.

173. Industrial Relations. (3) II. Mr. Nair
Promotion and transfer, personnel rating, labor relations, employee benefits and services, health and safety, wage and salary administration.

175. Industrial Supervision. (2) II. Mr. Nair
Problems in assigning, training, counseling, disciplining, instructing, and evaluating employees.

176A. Industrial Planning. (3) I. Mr. McClure
Product, process, equipment, facilities, and layout.

176B. Industrial Control. (3) II. Mr. McClure
Budgetary, cost, production, quality, inventory, and top management controls.

178. Motion and Time Study. (3) I. Mr. McClure
Tools of process, operation and systems analysis; principles of motion economy in work simplification; performance standards. Lecture, laboratory.

199. Independent Studies in Industrial Arts. (1–4) I, II. The Staff

Graduate Courses

245. History of Industrial Arts. (2) II. Mr. Monroe

247. Philosophy of Industrial Arts. (2) I. Mr. Monroe

299A–299B. Research. (2–2) I, II. The Staff

Related Courses in Other Departments

Education 164. Education and Vocational Guidance. (2–3), I, II. Mr. Monroe

Education I 190A. Teaching Procedures in Industrial Arts Education. (2) I, II. Field trips. Mr. Monroe

Education I 190B. Content and Materials in Industrial Arts. (2) I, II.
Prerequisite: course I 190A. Mr. Scherer

Education I 190C. Curriculum Development in Industrial Arts. (2) I, II. Mr. Monroe

Education I 192A–192B. Student Teaching: Industrial Arts. (3–3) I, II.
Field trips. The Staff

Speech 70. Stagecraft. (3) I, II. Mr. Lanning

MATHEMATICS

Stanley E. Rauch, Ph.D., *Professor of Mathematics.*
Lewis F. Walton, Ph.D., *Professor of Mathematics.*
Paul J. Kelly, Ph.D., *Associate Professor of Mathematics* (*Chairman of the Department.*)
Adil M. Yaqub, Ph.D., *Associate Professor of Mathematics.*
Andrew M. Bruckner, Ph.D., *Assistant Professor of Mathematics.*
Jack G. Ceder, Ph.D., *Assistant Professor of Mathematics.*
Glen J. Culler, Ph.D., *Assistant Professor of Mathematics.*
David M. Merriell, Ph.D., *Assistant Professor of Mathematics.*
Frederick B. Thompson, Ph.D., *Lecturer in Mathematics.*

Preparation for the Major. The student should have completed two years of algebra and courses in plane geometry and trigonometry in high school. Competence in the following university courses, or their equivalents, is essential for successful upper division study: Mathematics 3A–3B–4A–4B, 8; Physics 2A–2B. Philosophy 31 is recommended.

Requirements for the Major. A minimum of 24 units of upper division mathematics, including at least one course in algebra, one in analysis, and one in geometry.

Graduate-Preparatory. A student preparing for graduate study in mathematics should take Mathematics 108, 111, 118A, and 119A. Strongly recommended are Mathematics 118B, 122, and 112 or 140.

Applied Mathematics. For those intending to go into industrial work, Mathematics 105A–105B, 108, 119A–119B, 120, 122, and 124 are recommended.

Teaching. For those who intend to teach in secondary schools, Mathematics 101A–101B, 103, 109, 113, 115, and 119A are recommended.

Requirements for the Minor. Plane geometry, trigonometry, and one and one-half years of high school algebra are required for admission to a minor in mathematics. Students who have not completed trigonometry in high school must take Mathematics C. The prescribed course of further study is: 15 units selected from Mathematics 3A, 3B, 4A, 4B, 8, 30, 32, Philosophy 31; and 6 units of upper division mathematics. Recommended upper division courses are Mathematics 101A, 101B, 109, 113.

The Master of Arts Degree. Candidates for admission must present a bachelor's degree with a major in mathematics or the equivalent of such training. Entering students may be appraised by means of examination in addition to the evaluation of their records; whenever necessary, supplementary course work will be required.

Requirements for the Degree:

A. Completion of 24 units of approved course work. A minimum of 12 units must be taken in graduate courses (200 series). The remaining courses may be selected from upper division or graduate courses in mathematics or physics after approval by the department.
B. Comprehensive written examination.
C. Oral examination.

The Master of Arts Degree in Applied Mathematics

Admission. In addition to the scholarship requirements for graduate study, a candidate must hold a bachelor's degree in mathematics, physics, or engineering. He must also have had undergraduate course work in matrix algebra, differential equations, and advanced calculus (or its equivalent), and also

general physics, electricity, and magnetism. Evaluation of the candidate's past work will be made by both the Mathematics and the Physics Departments, and supplemental undergraduate work will be required whenever necessary.

Requirements for the Degree. Completion of twenty-four units beyond the bachelor's degree, of which at least twelve must be in graduate courses, and satisfactory performance in comprehensive written and oral examinations. The course work may be selected according to the candidate's special interests, with the approval of a faculty adviser, but all candidates are required to take at least one graduate course in physics and one graduate course in mathematics, (independent of Seminars or Directed Studies). It is expected that approximately one-half the work will be taken in each subject field.

The General Secondary Credential, Teaching Major

Credential candidates must complete the requirements specified for the mathematics major on page 155.

See page 110 for course requirements in education.

Mathematics

Lower Division Courses

C. Trigonometry. (2) I, II. The Staff

D. Intermediate Algebra. (3) I, II. The Staff

3A. Analytic Geometry and Calculus, First Course. (3) I, II. The Staff
Prerequisite: 1½ years of high school algebra, trigonometry (Mathematics C may be taken concurrently).

3B. Analytic Geometry and Calculus, Second Course. (3) I, II. The Staff
Prerequisite: Mathematics 3A.

4A. Analytic Geometry and Calculus, Third Course. (3) I, II. The Staff
Prerequisite: Mathematics 3B.
Includes an introduction to infinite series.

4B. Analytic Geometry and Calculus, Fourth Course. (3) I, II. The Staff
Prerequisite: Mathematics 4A.
Solid analytic geometry and calculus of three dimensions.

8. Algebraic Equations. (3) I, II. The Staff
Prerequisite: Mathematics 3A.
Theory of polynomials over a field, complex numbers, cubic and quartic equations, introduction to determinants and matrices.

30. Finite Mathematics. (3) II. The Staff
Prerequisite: second-year high school algebra or Mathematics D.
Finite problems having applications in the behavioral sciences. Compound statements, sets, combinatorial problems, probability, vectors, matrices.

32. Introduction to Calculus. (3) I, II. The Staff
Prerequisite: 1½ years of high school algebra (or Mathematics D).
Designed for economics majors and social science students. Not open to students who have passed Mathematics 3A.
A simplified introduction to differential and integral calculus applied to algebraic functions.

Upper Division Courses

101A–101B. Fundamental Concepts of Mathematics. (3–3) I. The Staff
Two independent courses designed primarily for prospective teachers and minors in mathematics.
Prerequisite: Mathematics 3B or consent of the instructor.
101A. Selected topics in algebra.
101B. Selected topics in geometry.

103. Development of Mathematics. (3) II. The Staff
Prerequisite: six units of upper division mathematics.
A study of the origin, nature, and development of some major mathematical concepts such as: limits, number fields, groups, measure and dimension, invariants of mappings.

104. Numerical Analysis. (3) I. The Staff
Prerequisite: Mathematics 119A (may be taken concurrently).
Properties of polynomials, measurement of approximation errors, numerical differentiation and integration, iterative methods, polynomial and trigonometric interpolation, Tchebycheff and Legendre polynomials, numerical solution of differential equations.

105. Matrix Methods in Numerical Analysis. (3) II. Mr. Culler
Prerequisite: Mathematics 108.
Numerical solution of linear systems, matrix inversion methods, quadratic forms, computation of eigenvalues and eigenvectors, evaluation of determinants, relaxation methods.

108. Linear Algebra. (3) II. The Staff
Prerequisite: Mathematics 4B and 8.
Vector spaces, matrix algebra, quadratic forms.

109. Foundations of Mathematics. (3) II. Mr. Walton
Prerequisite: Mathematics 4A and 8.
Elementary set theory and an introduction to the study of axiom systems.

111. Algebraic Structures. (3) I. Mr. Merriell
Prerequisite: Mathematics 4B and 8.
Groups, rings, and fields.

112. Projective Geometry. (3) II. Mr. Kelly
Prerequisite: Mathematics 8 and 4A, or consent of the instructor.
One- and two-dimensional analytic projective geometry.

113. Non-Euclidean Geometry. (3) I. Mr. Kelly
Prerequisite: Mathematics 8 and 4A, or consent of the instructor.

115. Number Theory. (3) I. The Staff
Prerequisite: Mathematics 4A and 8.
Topics include: number bases, factorization, Diophantine equations, congruences, residues, numerical functions, distribution of primes.

118A–118B. Introduction to Real Function Theory. (3–3) I, II. The Staff
Prerequisite: senior standing is recommended.
The real number system, elements of set theory, continuity, differentiability, the Riemann integral, functions of bounded variation, implicit function theorems, convergence processes, special topics.

119A. Differential Equations. (3) I, II. The Staff
Prerequisite: Mathematics 4A.

119B. Differential Equations. (3) II. The Staff
Prerequisite: Mathematics 119A.
Further topics in differential equations.

120. Probability. (3) II. The Staff
Prerequisite: Mathematics 119A.
Basic concepts of probability, limit theorems, discrete and continuous random variables, derived distributions, some statistical applications.

122. Introduction to Theory of Complex Variables. (3) I. The Staff
Prerequisite: Mathematics 119A.
Analytic functions, integration in the complex plane, analytic continuation, conformal mapping.

124. Mathematics for Engineers and Physicists. (3) II. Mr. Rauch
Prerequisite: Mathematics 119A.
Complex numbers, vectors, divergence, curl, Gauss's and Stokes' theorems; Gamma, Legendre, and Bessel functions; partial differential equations, applications.

126. Introduction to Topology. (3) II. The Staff
Prerequisite: senior standing is recommended.
Properties of metric spaces with special emphasis on Euclidean space: compactness, completeness, separability, homeomorphisms, special topics.

127. Infinite Series. (3) I. The Staff
Prerequisite: Mathematics 4B.
Sequences, convergence, tests for convergence, power series and trigonometric series, orthogonal functions, closed form summation methods, double series, approximate summation methods, divergent series.

131A–131B. Mathematical Statistics. (3–3) I, II. Mr. Rauch
Prerequisite: Mathematics 119A.
Discrete, continuous, and random variables, expectation, laws of large numbers, generating functions, recurrent events. Binomial, Poisson, normal distributions, large and small sample theory, analysis of variance, sequential analysis, correlation.

140. Introduction to Differential Geometry. (3) I. The Staff
Prerequisite: Mathematics 4B and 119A or consent of instructor.
Vector analysis. Theory of curves and surfaces in Euclidean space.

194. Group Studies for Advanced Students. (1–4) I, II. The Staff
Lectures and discussions on special topics. Prerequisite: consent of the instructor.

199. Independent Studies in Mathematics. (1–4) I, II. The Staff

GRADUATE COURSES

201. Real Functions. (3) I. The Staff
Prerequisite: Mathematics 118A–118B.
Point sets, measurable sets, measurable functions, Lebesgue and Lebesgue-Stieltjes integrals.

202. Complex Functions. (3) II. The Staff
Prerequisite: Mathematics 118A–118B.
Analytic functions, Cauchy's integral theorems, analytic continuation, conformal representation, power series, Dirichlet series, integral functions.

209. Set Theory. (3) II. Mr. Walton
A rigorous study of axiomatic set theory; topics include ordinal numbers, transfinite induction, cardinal numbers, cardinal arithmetic, and the Axiom of Choice.

212. Projective Metric Geometry. (3) II. Mr. Kelly
Prerequisite: Mathematics 112.
A study of metric spaces that can be imbedded in a projective space so the metric lines are carried by the projective lines; included are two and three dimensional noneuclidean geometries.

221. Field Theory. (3) II. The Staff
Prerequisite: Mathematics 111.
Finite fields, Galois theory, field extensions, ideal theory, algebraic number fields.

222. Group Theory. (3) I. The Staff
Prerequisite: Mathematics 111.
Normal subgroups, homomorphisms, Abelian groups, Sylow theorems, permutation groups, free groups, group representations.

223. Ring Theory. (3) II. The Staff
Prerequisite: Mathematics 111.
The radical, structure of rings, applications of structure theory, commutativity theorems.

224. Linear Algebra. (3) I. The Staff
Prerequisite: Mathematics 108.
Vector spaces, linear functionals, duality, linear and bilinear forms, invariant subspaces, reducibility, decomposition theorems, orthogonality.

226A–226B. Topology. (3–3) I, II. The Staff
Prerequisite: Mathematics 118A–118B.
Abstract spaces and their classification. Compact spaces, metric spaces and metrizability. Introduction to dimension and homotopy theory. Topics from algebraic topology.

240A–240B. Differential Geometry. (3–3) I, II. The Staff
Prerequisite: Mathematics 118A–118B.
Theory of surfaces in Euclidean space. Riemannian space. Topics from differential geometry in the large. Elements of differential geometry in general spaces: geodesics, motions, curvature, topological structure.

246. Partial Differential Equations. (3) I. Mr. Rauch
Prerequisite: Mathematics 118A or 124.
Boundary value and characteristic value problems, separation of variables, series of characteristic functions, Fourier and Laplace transforms, Green's functions.

247. Methods of Applied Mathematics. (3) II. Mr. Rauch
Prerequisite: Mathematics 118A or 124.
Selected topics in the calculus of variations, matrices, nonlinear equations, complex functions, integral equations, stochastic processes.

260. Seminars in Mathematics. (3) I, II. The Staff
Topics in analysis, geometry, algebra and numerical analysis, and their applications, by means of lectures and informal conferences with members of the staff.

298. Directed Studies. (1–3) I, II. The Staff

MILITARY SCIENCE

George M. Boone, Jr., B.S., Lieutenant Colonel, Infantry, *Professor of Military Science (Chairman of the Department)*.
Walter J. Zarnowski, B.S., Major, Infantry, *Associate Professor of Military Science.*
Robert N. Anderson, B.S., Captain, Military Police, *Assistant Professor of Military Science.*
Willard A. Ramirez, M.A., Captain, Corps of Engineers, *Assistant Professor of Military Science.*
James B. Reed, B.S., Captain, Armor, *Assistant Professor of Military Science.*
———, *Assistant Professor of Military Science.*

The mission of the Reserve Officers Training Corps is to produce, for the active Army and the Army Reserve, junior officers who have the qualities and attributes essential to their progressive and continued development as officers of the United States Army. While most graduates serve as reserve officers, the R.O.T.C. program also has become the principal source of junior officers for the Regular Army through the selection of outstanding students for direct appointment in the Regular Army.

The general military science curriculum is offered. This is designed to correspond to the general academic pattern of the Santa Barbara campus. A graduate of the advanced course will be commissioned so far as possible in a branch of the Army corresponding to his wishes and to his major academic field.

The United States furnishes the necessary arms, equipment, uniforms, and textbooks. These remain the property of the United States and must be returned at the end of the school year.

BASIC COURSE

The purpose of this course is to qualify the student as a leader, to help prepare him to discharge his duties as a citizen, and to awaken in him an appreciation of the obligation of citizenship.

The basic course is prescribed for all first- and second-year students who are able-bodied and citizens of the United States between the ages of fourteen and twenty-three, inclusive.

Students who have had previous military training or service may be credited with such advanced standing in R.O.T.C. as the Chancellor and the Professor of Military Science jointly determine.

Students claiming exemption or advanced standing must file a petition on the day of registration and should present at that time supporting documentary evidence such as a certificate of service or transcript of record of previous training.

1A–1B. Basic Course. (1½–1½) Yr. The Staff

Classroom 1 hour; leadership laboratory 1 hour.

Prerequisite: acceptance by the Professor of Military Science.

Introduction to military organization, purpose of R.O.T.C., individual weapons, and United States Army and National Security. Special emphasis is given to the importance of the citizen-soldier to the American way of life.

2A–2B. Basic Course. (1½–1½) Yr. The Staff

Classroom 2 hours; leadership laboratory 1 hour.

Prerequisite: Military Science 1A and 1B, or equivalent military training.

Origins, understanding and use of maps and aerial photographs; United States Army and National Security; introduction to basic tactics. The foundation is laid for future officer training in the event the student desires to aspire to commissioned status.

ADVANCED COURSE

The purpose of this course is to provide college-trained junior officers to meet the needs of the active Army and to provide a pool of trained leaders who will be available in the event of a national emergency. Students successfully completing the course agree to accept a commission in the United States Army Reserve, if tendered, and normally serve six months or two years on active duty.

A student who wishes to obtain a direct appointment in the Regular Army through selection as a distinguished military graduate, must possess the following qualifications: outstanding qualities of military leadership, high moral character, and definite aptitude for the military service. He should be in the upper half of the University academically and must demonstrate his leadership through his accomplishment in recognized campus activities. He must complete successfully the advanced course in military science as well as the four-year curriculum of the University, and obtain a degree.

Students for the advanced course are selected from those who are physically qualified citizens between the ages of sixteen and twenty-six who have completed the basic course or its equivalent and who have at least two academic years remaining to complete work for a baccalaureate or advanced degree.

Advanced course students receive officer-type uniforms which become their property upon successful completion of the course. In addition, they receive commutation of subsistence equivalent to the value of the Army ration (currently about $27 per month), as well as the use of arms, equipment, and textbooks.

Advanced course students are required to attend a summer training camp of six weeks' duration, normally between the third and fourth years. The United States furnishes uniforms, equipment, and subsistence. In addition, the student is paid at the rate of pay of an Army private (now $78 per month), plus five cents per mile to and from camp.

Acceptance by the student of the monetary allowances described in the foregoing two paragraphs makes completion of the advanced course a prerequisite to graduation from the University of California, Santa Barbara.

In addition to the requirements listed in 103A–103B and 104A–104B, the student will, in both his junior and senior years, select a course of at least three units from the four following fields: Effective Communication; Science Comprehension; General Psychology; Political Development and Political Institutions.

In the event that a particular subject was required in the student's normal academic curriculum during his freshman and sophomore years, electives must be selected either from another general area or an advanced subject in the same area. However, if the subject selected was not required in the student's academic curriculum during his freshman and sophomore years, complete freedom of selection from the four academic areas is permissible.

The Professor of Military Science will evaluate and approve the elective subjects selected. Consideration will be given to the value of the subject in furthering the professional qualification of the student as a prospective commissioned officer in the United States Army.

102. R.O.T.C. Summer Camp. (3)

Prerequisite: at least one semester of advanced R.O.T.C.

Practical application of all phases of military life, including qualification firing, tactical exercises, and leadership training.

103A–103B. Advanced Course, General Military Science. (3–2) Yr.

The Staff

Classroom 3 hours; leadership laboratory 1 hour in fall semester and class-

room 2 hours; leadership laboratory 1 hour in spring semester, plus fulfillment of the requirement listed above.

Prerequisite: Military Science 1A–1B and 2A–2B or equivalent, and acceptance by the Professor of Military Science, with the approval of institutional authorities.

Leadership Theory; Methods of Instruction and Military Teaching Principles; Function and Mission of the Arms and Services; Continuation of Basic Tactics and Small Unit Tactics; Principles of Communications.

104A–104B. Advanced Course, General Military Science. (2–3) Yr.

The Staff

Classroom 2 hours; leadership laboratory 1 hour in fall semester; and classroom 3 hours; leadership laboratory 1 hour in spring semester, plus fulfillment of the requirement listed above.

Prerequisite: Military Science 1A–1B, Military Science 2A–2B or equivalent, and Military Science 103A–103B.

Military Staff Operations, Logistics; Army Administration; Military Law; The role of the United States in World Affairs; Service Orientation designed to prepare the student for entry on active service either as a commissioned officer in the U. S. Army Reserve or the Regular Army.

MILITARY SCIENCE AS A MINOR

The State Department of Education has authorized military science as a teaching minor for the junior high school and general secondary credentials for male students. Students pursuing this minor should be those primarily concerned with completing work toward an Army commission.

MUSIC

Lloyd Browning, M.A., *Professor of Music.*
Van A. Christy, Ph.D., *Professor of Music.*
Maurice E. Faulkner, Ph.D., *Professor of Music.*
Karl Geiringer, Ph.D., *Visiting Professor of Music.*
Erno Daniel, P.S.D., *Associate Professor of Music.*
John E. Gillespie, Ph.D., *Associate Professor of Music.*
Stefan Krayk, License de Concerts, *Associate Professor of Music.*
Clayton Wilson, M.M., *Associate Professor of Music (Chairman of the Department).*
Carl B. Zytowski, M.A., *Associate Professor of Music.*
Helen M. Barnett, M.A., *Associate Professor of Music, Emeritus.*
Roger E. Chapman, Ph.D., *Assistant Professor of Music.*
Ira Lehn, M.M., *Assistant Professor of Music.*
Wendell A. Nelson, D.M., *Assistant Professor of Music.*
Dorothy Westra, M.S.M., *Assistant Professor of Music.*
———, *Assistant Professor of Music.*
Irving Eisley, M.A., *Acting Assistant Professor of Music.*
Peter S. Odegard, M.A., *Acting Assistant Professor of Music.*
Dolores Menstell, B.M., *Acting Instructor in Music.*
Jeannette Hedge, M.A., *Associate in Music.*

Students majoring in music are required to take entering placement examinations in theory and in performance, to pass sophomore auditions, to participate in student recitals, and to engage in at least one music activity per semester with or without credit. Students from other institutions are required to complete at least two semesters within the department.

THE MAJOR IN MUSIC

This is a general major in (1) theory-history, (2) sacred music, or (3) performance. Forty-eight units in music are required. As a requirement for graduation, a senior audition must meet standards approved by the faculty of the department. Details concerning this audition are available in the departmental office.

General Education Requirements

(Program I—See pages 64 and 65)

Preparation for the Major	*Units*
Music 3A–B–C. Harmony	9
Music 4A–B–C. Solfege	6
Music 10. Introduction to Music Literature	2
Music 33. Piano (Number of units required depends upon proficiency at entrance)	0–4
Music 41A. Elementary Voice or Music 43. Intermediate Voice	2

The Major	
Music 102A–102B. Counterpoint	4
Music 106A. Orchestration	2
Music 107. Form and Analysis	2
Music 110A–110B. Music History	6

and 12 units in any one of the following emphases:

1. *Theory—History*

Twelve units in theory and/or history courses selected with the guidance of the faculty adviser.

2. *Sacred Music* — *Units*

Music 120. Choral Conducting	2
Music 173. History and Literature of Church Music	2
Music 174. Hymnology	2
Music 175. Music of the Liturgies	2

and four units in related courses in music selected with the guidance of the faculty adviser.

3. *Performance*

Twelve units in performance courses selected with the guidance of the faculty adviser.

THE MAJOR IN MUSIC WITH SPECIAL PERFORMANCE EMPHASIS

This is a specialized performance major in any of the following areas: piano, organ, voice, flute, oboe, clarinet, saxophone, bassoon, trumpet, French horn, baritone horn, trombone, tuba, violin, viola, violoncello, contrabass, and percussion. A high standard of performance must be demonstrated in a special entrance examination. Fifty-eight units in music are required. As a requirement for graduation, a comprehensive final examination including a senior public recital must meet standards approved by the faculty of the department. Details concerning this examination are available in the departmental office.

General Education Requirements

(Program II)

	Units
Art (including at least one appreciation course)	4
English 1A–1B	6
Speech 11	3
English Elective	3
Psychology 1 or 101	3
Biological and Physical Sciences and Mathematics	9–10
Social Sciences (including American History requirement)	9
Philosophy	3
*French or German	4
†Controlled Electives	3–2
Physical Education	2
Military Science (Men) or †Controlled Electives (Women)	6

Preparation for the Major

Music 3A–B–C. Harmony	9
Music 4A–B–C. Solfege	6
Music 10. Introduction to Music Literature	2
Music 33. Piano (Number of units required depends upon proficiency at entrance.)	0–4
Music 41A. Elementary Voice or Music 43. Intermediate Voice	2

The Major

Music 102A–102B. Counterpoint	4
Music 107. Form and Analysis	2
Music 110A–110B. Music History	6

and 19 units in performance courses selected with the guidance of the faculty adviser.

* Exclusive of high school language.
† French or German recommended.

Requirements for the Minor

The minor in music consists of 20 units, at least six of which must be in upper division courses. Consult the departmental office for specific requirements.

The Master of Arts in Music

See general requirements, pages 69 and 70

The requirements for candidates in music are:

(1) Twenty-four units distributed as follows:

(a) Eight graduate units in specified courses.
Music 200: Bibliography and Research Techniques (2)
Music 260A: Seminar in History and Literature (3)
Music 266: Seminar in Contemporary Music (3)

(b) Six graduate units elected from approved courses.

(c) Ten units in upper division and graduate courses elected with the guidance of the graduate adviser. Following guidance examinations taken at entrance, the department may specify certain upper division courses to supplement the candidate's undergraduate background.

(2) A reading knowledge of French, German, or Italian must be demonstrated satisfactorily by examination.

(3) Depending upon a chosen field of emphasis, a thesis, composition in large form, or comprehensive final examination including a graduate recital and a graduate research paper must be satisfactorily completed. In all cases the department reserves the right to require oral and written final comprehensive examinations.

CREDENTIAL PROGRAMS

The department offers the following teaching credentials: (a) general secondary credential; (b) special secondary credential*, which authorizes the holder to teach both vocal and instrumental music in the elementary and secondary schools in California. For the general requirements, see pages 70–72. Students desiring a teaching credential in music should consult their advisers as to proper choice of electives.

The General Secondary Credential, Teaching Major

1. Complete the following courses in music:	*Units*
21. Strings	2
22. Brass	2
23. Woodwinds	2
24. Percussion	2
41B. Elementary Voice or	
43. Intermediate Voice	2
106A. Orchestration	2
108A. Composition	3
121. Instrumental Conducting	2

2. See page 110 for required courses in education. Education MI 190, Methods of Teaching Instrumental Music, and MV 190, Methods of Teaching Vocal Music, are required procedures courses for the major. In addition, a procedures course in the minor field must be taken.

3. A minor in the humanities, social sciences, natural sciences, or art is required in an applied music major, except that male students may present a minor in military science.

* Completion of the Bachelor of Arts Degree combined with a Special Secondary Credential in Music takes from 4½ to 5 years unless summer sessions are utilized.

The General Secondary Credential, Teaching Minor

Lower Division	*Units*
Music 15. Music History and Appreciation	2
Music 31A–31B. Basic Piano	2
Music 33. Piano	2
Music 40A–40B. Basic Musicianship and Voice	4
Music Activities	2
Upper Division	
Music 115. Symphonic Literature	2
Music 117. History and Literature of Opera (or 2 units of music activities)	2
Music 120. Choral Conducting (or Music 121. Instrumental Conducting)	2
Music Activities	2

Special Secondary Credential

1. Complete the music courses listed above for the general secondary credential teaching major.

2. Complete the following education courses: 110, 147, 170, MI 190, MV 190, M 192.

Lower Division Courses

X. Elementary Theory. (0) I. The Staff
Two hours weekly. Required of all music majors who do not pass the entrance examination in theory.

3A–B–C. Harmony. (3–3–3) II, I, II. Mr. Odegard
Prerequisite: Music X or equivalent.

4A–B–C. Solfege. (2–2–2) II, I, II. Miss Menstell
Prerequisite: Music X or equivalent.

10. Introduction to Music Literature. (2) I. Mr. Eisley
Prerequisite: Music X or equivalent. For the major.

15. Music History and Appreciation. (2) I, II. The Staff
Three hours weekly. For the nonmajor.

16. Masterworks of Music. (2) I, II. Miss Menstell
Prerequisite: Music 15 or consent of instructor. For the nonmajor.

21. Strings. (2) I. Mr. Krayk
Prerequisite: Music X or equivalent. Primarily for the credential.

22. Brass. (2) I. Mr. Faulkner
Prerequisite: Music X or equivalent. Primarily for the credential.

23. Woodwinds. (2) II. Mr. Wilson
Prerequisite: Music X or equivalent. Primarily for the credential.

24. Percussion. (2) II. Mr. Faulkner
Prerequisite: Music X or equivalent. Primarily for the credential.

31A–31B. Basic Piano. (1–1) I, II. Miss Hedge

32A–32B. Piano for Early Childhood Education. (1–1) I, II. Miss Hedge
Prerequisite: Music 31A–31B or equivalent.

33. Piano. (1) I, II. Mr. Browning, Mr. Daniel, Mr. Nelson
Prerequisite: Music 31A–31B or equivalent.
May be repeated for credit up to 4 units.

35. Organ. (1) I, II. Mr. Gillespie
Prerequisite: Music 31A–31B or equivalent.
May be repeated for credit up to 4 units.

40A–40B. Basic Musicianship and Voice. (2–2) I, II. The Staff
For the classroom teacher.
Not open to freshmen.

41A–41B. Elementary Voice. (2–2) Yr. Mr. Christy
For the instrumental major.

43. Intermediate Voice. (1) I, II. Mr. Christy, Miss Westra, Mr. Zytowski
For the vocal major. May be repeated for credit up to 4 units.

45. Intermediate Strings. (1) I, II. Mr. Krayk, Mr. Lehn
May be repeated for credit up to 4 units.

50. Intermediate Woodwinds. (1) I, II. Mr. Wilson
May be repeated for credit up to 4 units.

55. Intermediate Brass. (1) I, II. Mr. Faulkner
May be repeated for credit up to 4 units.

58. Intermediate Percussion. (1) I, II. Mr. Faulkner
May be repeated for credit up to 4 units.

Activities

60. The Chamber Singers. (1) I, II. Miss Westra
May be repeated for credit up to 4 units.

61. Women's Glee Club. (1) I, II. Miss Westra
May be repeated for credit up to 4 units.

62. Men's Glee Club. (1) I, II. Mr. Zytowski
May be repeated for credit up to 4 units.

63. Modern Chorale. (1) I, II. Mr. Christy
May be repeated for credit up to 4 units.

64. Opera Workshop. (1) I, II. Mr. Zytowski
May be repeated for credit up to 4 units.

65. Piano Ensemble. (1) I, II. Mr. Browning, Mr. Nelson
May be repeated for credit up to 4 units.

66. Orchestra. (1) I, II. Mr. Daniel
May be repeated for credit up to 4 units.

67. String Orchestra. (1) I, II. Mr. Daniel
May be repeated for credit up to 4 units.

68. String Quartet. (1) I, II. Mr. Krayk, Mr. Lehn
May be repeated for credit up to 4 units.

69. Brass Choir. (1) I, II. Mr. Faulkner
May be repeated for credit up to 4 units.

70. Woodwind Ensemble. (1) I, II. Mr. Wilson
May be repeated for credit up to 4 units.

71. Band. (1) I, II. The Staff
May be repeated for credit up to 4 units.

UPPER DIVISION COURSES

102A. Modal Counterpoint. (2) I. Mr. Chapman
Prerequisite: Consent of instructor.

102B. Tonal Counterpoint. (2) II. Mr. Chapman
Prerequisite: Music 3C or equivalent.

104R. Score Reading. (2) I, II. Mr. Daniel
Prerequisite: Music 3C.

105. Advanced Keyboard Harmony. (2) I, II. Mr. Chapman
Prerequisite: Music 3C or equivalent.

106A–106B. Orchestration. (2–2) I, II. Mr. Faulkner
Prerequisite: Music 3A–B–C. 106A or its equivalent is prerequisite to 106B.

107. Form and Analysis. (2) I, II. Mr. Eisley
Prerequisite: Music 3A–B–C.

108A–108B. Composition. (3–3) I, II. Mr. Chapman
Prerequisite: Music 3A–B–C.

*109. **Advanced Composition.** (3) I, II. Mr. Chapman

110A–110B. Music History. (3–3) Yr. Mr. Eisley
Prerequisite: Music 10, 3A–B–C. For the major.

115. Symphonic Literature. (2) I, II. Mr. Daniel
Prerequisite: Music 15 or equivalent. For the nonmajor.

116. History and Literature of Hispanic-American Music. (2) I.
Prerequisite: Music 15 or equivalent. For the nonmajor. Mr. Gillespie

117. History and Literature of Opera. (2) I, II. Mr. Zytowski
Prerequisite: Music 15 or equivalent. For the nonmajor.

118. History and Literature of Chamber Music. (2) I, II. Mr. Lehn
Prerequisite: Music 15 or equivalent. For the nonmajor.

119. History and Literature of Keyboard Music. (2) II. Mr. Gillespie
Prerequisite: Music 15 or equivalent. For the nonmajor.

120. Choral Conducting. (2) I. Mr. Daniel
Prerequisite: Music 104R or consent of instructor.

121. Instrumental Conducting. (2) II. Mr. Daniel
Prerequisite: Music 104R or consent of instructor.

132A–132B. Piano Accompanying. (2–2) I, II. Mr. Browning

133. Advanced Piano. (1–2) I, II. Mr. Browning
May be repeated for credit up to 12 units.

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* Not to be given, 1961–1962.

135. Advanced Organ. (1–2) I, II. Mr. Gillespie
May be repeated for credit up to 8 units.

136. Harpsichord. (1–2) I, II. Mr. Gillespie
Prerequisite: consent of instructor.
May be repeated for credit up to 12 units.

143. Advanced Voice. (1–2) I, II. The Staff
May be repeated for credit up to 8 units.

145. Advanced Strings. (1–2) I, II. Mr. Krayk, Mr. Lehn
May be repeated for credit up to 8 units.

150. Advanced Woodwinds. (1–2) I, II. Mr. Wilson
May be repeated for credit up to 8 units.

155. Advanced Brass. (1–2) I, II. Mr. Faulkner
May be repeated for credit up to 8 units.

158. Advanced Percussion. (1–2) I, II. Mr. Faulkner
May be repeated for credit up to 8 units.

173. History and Literature of Church Music. (2) II. Mr. Gillespie
Prerequisite: Music 110A.

174. Hymnology. (2) I. Miss Westra
Prerequisite: Music 173.

175. Music of the Liturgies. (2) II. Mr. Zytowski
Prerequisite: Music 173.

181. Studies in Baroque Music. (3) II. Mr. Geiringer
Prerequisite: Music 110A–110B or consent of instructor.
For the major.

182. Studies in Classic Music. (3) I. Mr. Eisley
Prerequisite: Music 110A–110B or consent of instructor.
For the major.

183. Studies in Romantic Music. (3) II. Mr. Chapman
Prerequisite: Music 110A–110B or consent of instructor.
For the major.

184. Studies in Contemporary Music. (3) I. Mr. Odegard
Prerequisite: Music 110A–110B or consent of instructor.
For the major.

197. Senior Recital. (2) I, II. The Staff
Open as an elective to honors students in performance.

198. Senior Auditions. (1–4) I, II. The Staff
Prerequisite: consent of instructor.

199. Independent Studies in Music. (1–4) I, II. The Staff

Activities

160. The Chamber Singers. (1) I, II. Miss Westra
May be repeated for credit up to 6 units.

161. Women's Glee Club. (1) I, II. Miss Westra
May be repeated for credit up to 6 units.

162. Men's Glee Club. (1) I, II. Mr. Zytowski
May be repeated for credit up to 6 units.

163. Modern Chorale. (1) I, II. Mr. Christy
May be repeated for credit up to 6 units.

164. Opera Workshop. (1) I, II. Mr. Zytowski
May be repeated for credit up to 6 units.

165. Piano Ensemble. (1) I, II. Mr. Browning
May be repeated for credit up to 6 units.

166. Orchestra. (1) I, II. Mr. Daniel
May be repeated for credit up to 6 units.

167. String Orchestra. (1) I, II. Mr. Daniel
May be repeated for credit up to 6 units.

168. String Quartet. (1) I, II. Mr. Krayk, Mr. Lehn
May be repeated for credit up to 6 units.

169. Brass Choir. (1) I, II. Mr. Faulkner
May be repeated for credit up to 6 units.

170. Woodwind Ensemble. (1) I, II. Mr. Wilson
May be repeated for credit up to 6 units.

171. Band. (1) I, II. The Staff
May be repeated for credit up to 6 units.

Graduate Courses

200. Bibliography and Research Techniques. (2) I. Mr. Chapman

208A–208B. Graduate Composition. (2–2) Yr. Mr. Chapman

220A–220B. Graduate Performance. (2–2) Yr. The Staff

250. Seminar in Music Theory. (3) I, II. Mr. Chapman

260A–260B. Seminar in History and Literature. (3–3) Yr. Mr. Geiringer

266. Seminar in Contemporary Music. (3) I, II. Mr. Chapman

270A–270B. Seminar in Music Education. (2–2) Yr. Mr. Christy

297. Individual Studies for Graduate Students. (1–4) I, II. Mr. Geiringer

Related Courses in Another Department

Education MEC 190. Early Childhood Music Education. (2) II.
Miss VanDeman

Education ME 190. Elementary Music Education. (2) I, II. Miss Westra
Prerequisite: Music 15, 40A–40B. Elementary education majors must have completed, or be concurrently enrolled in EL 190 (Elementary Procedure).

Education MI 190. Methods of Teaching Instrumental Music. (2) I.
Prerequisite: Music 21, 22, 23. Includes methods in both elementary and secondary schools. Mr. Faulkner

Education MV 190. Methods of Teaching Vocal Music. (2) II. Mr. Christy
Prerequisite: Music 41A–41B or equivalent. Includes methods in both elementary and secondary schools.

Education M 192. Student Teaching: Music. (1) I, II. The Staff
Prerequisite: Ed. MI 190, Ed. MV 190. May be repeated for credit up to 6 units, although only 4 units are required.

PHILOSOPHY

Harry K. Girvetz, Ph.D., *Professor of Philosophy (Chairman of the Department).*
Herbert Fingarette, Ph.D., *Associate Professor of Philosophy.*
Paul D. Wienpahl, Ph.D., *Associate Professor of Philosophy.*
Fred Hagen, Ph.D., *Assistant Professor of Philosophy.*
Alexander Sesonske, Ph.D., *Assistant Professor of Philosophy.*
John Wilkinson, Ph.D., *Assistant Professor of Philosophy.*
Jerry Stannard, Ph.D., *Lecturer in Philosophy.*

Offerings in philosophy are not only intended to provide undergraduate preparation for graduate study in philosophy; they are designed to contribute to general education and to preprofessional training in areas (e.g., law) where early specialization is normally discouraged. In numerous instances courses are directly related to specific disciplines or groups of disciplines for which they are intended to supply a philosophical framework (e.g., "Aesthetics" for the arts, "Philosophy of Science" for the natural sciences, etc.). The staff should be consulted for the courses best adapted to these several purposes.

In addition to the major in philosophy, a minor is available which can be adapted to the needs of students in such areas as natural science, social science, literature, art, and language.

Preparation for the Major

Required Courses	*Units*
Philosophy 20A–20B. History of Philosophy	3–3
Philosophy 31. Deductive Logic	3

Requirements for the Major. 24 units in upper division philosophy courses, 6 of which may be in related courses in other departments or subject fields, including the tutorial major, with the approval of the departmental adviser.

Combination Major. Students interested in a combination major with emphasis on social science see page 200.

Requirements for the Minor. 20A–20B. History of Philosophy and 12 units in upper division which may be selected on the basis of their relevance to the student's major.

Requirements for the Master's Degree. For the general requirements see pages 69 and 70. In addition, candidates for the master's degree in philosophy must satisfy the following:

1. Completion of 24 units of approved course work. A minimum of 12 units in graduate philosophy courses (200 series). The remaining courses to be selected from upper division or graduate courses in other subjects after approval by the department.

2. Comprehensive written examination or completion of a thesis. The choice of examination or thesis, as well as the topic of the latter, will be determined in consultation with the faculty in the light of the student's best interests.

3. Oral examination on the comprehensive written examination or thesis.

4. Demonstration of proficiency in one of the following languages: Greek, Latin, French, or German. (Work done in satisfying this language requirement would not count as part of the 24 units required for the degree.)

5. Admission to Candidacy. The student who wishes to obtain the M.A. degree must first be admitted to candidacy. Work on the thesis or for the comprehensive examination cannot be formally commenced until the student has satisfied the following requirements:

(a) By the sixth week of the semester before that in which the student expects to obtain the degree he must pass a written examination covering four of the following fields:

History of philosophy, ethics and aesthetics, logic and the philosophy of science, metaphysics and epistemology, social and political philosophy. In the event of failure to pass, the student may repeat the examination once.

(b) The student must pass the foreign language reading examination some time during the penultimate semester referred to in "a."

(c) At the end of the same semester he must petition the Graduate Council for advancement to candidacy. This petition is allowable only after satisfaction of requirements "a" and "b."

Requirements for Graduate Study Not Leading to a Degree. Students are permitted to do advanced studies in philosophy without working for a higher degree. Such students need not have majored in philosophy, although they must have taken a number of courses in philosophy. The graduate program in philosophy is designed to accommodate these students. Accordingly, only such of the regulations on pages 42 and 43 as apply to admission and standards concern these students.

Lower Division Courses

1. Short Introduction to Philosophy. (3) I, II. The Staff

Not open for credit to students who have completed Philosophy 6A.

Philosophical ideas in terms of which western civilization seeks to understand itself and the world of which it is a part.

3. Logic in Practice. (3) I. Mr. Hagen

Open to all students.

Practical reasoning, and language and its analysis as instruments of sound thinking in everyday life.

6A–6B. Introduction to Philosophy. (3–3) I, II. The Staff

20A–20B. History of Philosophy. (3–3) I, II. Mr. Sesonske, Mr. Wienpahl

20A. From the Pre-Socratics to St. Thomas.

20B. From 1200 on.

31. Deductive Logic. (3) I. Mr. Wilkinson

Not open to freshmen.

The forms of reasoning and the structure of language; Aristotle's logic; modern symbolic logic; the foundations of mathematics.

Upper Division Courses

Philosophy 1 or consent of the instructor is required for all upper division courses.

100. Science, Folklore, and Philosophy. (3) I. Mr. Girvetz

An examination of philosophy as a response to the conflict between science and traditional belief. Directed primarily to non-philosophy majors.

104. Ethics. (3) I, II. Mr. Fingarette, Mr. Girvetz, Mr. Sesonske

Analysis, with application thereof to human problems, of such topics as moral deliberation, means and ends, good, right, and moral principles.

108. Social Philosophy. (3) II. Mr. Fingarette

Basic concepts and methods of the social sciences; the relationship of the social to the biological and physical sciences; social policy-making.

109. Philosophy of Liberalism. (3) II. Mr. Girvetz
An examination of the assumptions and implications of classical and contemporary liberalism.

111. Metaphysics. (3) II. Mr. Wienpahl

112. Philosophy of Religion. (3) II. Mr. Hagen, Mr. Wilkinson
The existence and nature of God, human free will, problem of evil, idea of immortality, rivalry of living religions, and philosophy of mysticism.

117. Philosophy of the Enlightenment. (3) II. Mr. Wilkinson
Consideration of the figures in the Enlightenment and the problems they faced which led to the romantic movement.

118. Philosophy in the Nineteenth Century. (3) II. Mr. Girvetz, Mr. Hagen
German idealism, romanticism, and the philosophical implications of nineteenth-century scientific developments.

121. Political Philosophy. (3) II. The Staff
Prerequisite: Philosophy 1, or 6A–6B, or 20A–20B, or consent of instructor.
Analysis of fundamental political conceptions: the state, sovereignty, political obligation, natural rights, natural law, etc.

123. Studies in Asian Philosophy. (3) I. Mr. Fingarette
Prerequisite: six units of philosophy or East Asian Studies, or consent of the instructor.
Reading and critical analysis of basic texts in Confucian, Taoist, Buddhist and other oriental philosophies. Attention will also be given to the relationships of these ideas with Western thought.

124. Philosophy of Science. (3) II. Mr. Wilkinson
Procedures of the deductive and inductive sciences, with attention to the problems for theory of knowledge which they raise.

133. Philosophy of Language. (3) I. Mr. Wilkinson
Modern linguistics. The structure and function of the languages of mathematics, the sciences, history, aesthetics, ethics, etc. General theories of symbolism. Logical Positivism and semantics. Form and content in language systems. General system theory. Theory of communication. Possibilities of synthesis.

135A–135B. Contemporary Philosophy. (3–3) I, II.
Mr. Hagen, Mr. Wienpahl
Prerequisite: Philosophy 20B, or consent of the instructor.
Positivism, pragmatism, existentialism, analytic philosophy, and other tendencies in contemporary thought.

136. Aesthetics. (3) I. Mr. Fingarette, Mr. Sesonske
Analysis of the aesthetic experience, the aesthetic object, the creative act and art criticism.

146. Philosophy in Literature. (3) II. Mr. Sesonske
Study of philosophical ideas expressed in the literature of the western world.

152. Plato. (3) I. Mr. Sesonske, Mr. Stannard
Prerequisite: Philosophy 20A, or consent of the instructor.

153. Aristotle. (3) II. Mr. Stannard
Prerequisite: Philosophy 20A, or consent of the instructor.

162. Continental Rationalism. (3) I. Mr. Wienpahl
Prerequisite: Philosophy 20B.
The philosophies of Descartes, Spinoza, and Leibniz.

163. British Empiricism. (3) II. Mr. Fingarette
Prerequisite: Philosophy 20B.
The philosophies of Locke, Berkeley, and Hume.

166. Kant. (3) II. Mr. Wienpahl, Mr. Wilkinson
Prerequisite: Philosophy 162 or Philosophy 163, or consent of the instructor.
An examination of the philosophy of Kant with special attention to the *Critique of Pure Reason.*

184. Advanced Logic. (3) II. Mr. Wilkinson
Prerequisite: Philosophy 31 or consent of the instructor.
Foundations of mathematics, of physics; applications of symbolic logic to philosophical problems.

188. Theory of Value. (3) II. Mr. Fingarette, Mr. Girvetz, Mr. Sesonske
Prerequisite: Philosophy 1 or 104 or 136.

194. Group Studies in Philosophy. (3) I, II. The Staff
Course may be repeated for credit up to 6 units.

199. Independent Studies in Philosophy. (1–4) I, II. The Staff
Admission by special arrangement.

Graduate Courses

251. Seminar in Metaphysics. (3) II. Mr. Wienpahl
Prerequisite: Philosophy 111 or consent of the instructor.

254. Seminar in Theory of Value. (3) II. Mr. Sesonske
Prerequisite: Philosophy 104 or consent of the instructor.

255. Seminar in Political and Social Philosophy. (3) I.
Mr. Fingarette, Mr. Girvetz
Prerequisite: Philosophy 108 or 109 or consent of the instructor.

256. Epistemology. (3) II. Mr. Fingarette
Prerequisite: Philosophy 135A–135B, or consent of the instructor.
A seminar in theory of knowledge dealing with the problems of perception, memory, belief, and knowledge.

264. Seminar in Logic and Methodology of Science. (3) I. Mr. Wilkinson
Prerequisite: Philosophy 31, 124, or consent of the instructor.

270. Seminar in History of Philosophy. (3) I. The Staff
Prerequisite: Philosophy 20A–20B and consent of the instructor.

298. Individual Study: Selected Problems in Philosophy. (3) I and II.
Prerequisite: consent of the instructor. The Staff

299. Directed Research. (2–4) I, II. The Staff
Prerequisite: graduate standing and consent of instructor.

PHYSICAL AND HEALTH EDUCATION

MEN

Theodore Harder, Ed.D., *Professor of Physical Education.*
Joseph E. Lantagne, Ed.D., *Professor of Physical Education (Chairman of the Department).*
———, *Professor of Physical Education.*
††Terry H. Dearborn, Ed.D., *Associate Professor of Physical Education.*
Arthur J. Gallon, Ed.D., *Associate Professor of Physical Education.*
††Mayville S. Kelliher, Ed.D., *Associate Professor of Physical Education. (Intercollegiate Athletics Director).*
Lyle G. Reynolds, Ed.D., *Associate Professor of Physical Education.*
Stanley L. Williamson, M.S., *Associate Professor of Physical Education.*
Wilton M. Wilton, Ed.D., *Associate Professor of Physical Education.*
Ernest D. Michael, Ph.D., *Assistant Professor of Physical Education.*
Rene H. Rochelle, Ph.D., *Assistant Professor of Physical Education.*
†Ernest N. Carter, M.A., *Associate Supervisor of Physical Education.*
B. Gene Bartow, M.S., *Assistant Supervisor of Physical Education.*
George Holland, Jr., M.S., *Assistant Supervisor of Physical Education.*
Frank D. Rohter, M.Ed., *Assistant Supervisor of Physical Education.*
Raymond H. Thornton, M.A., *Assistant Supervisor of Physical Education.*
———, *Assistant Supervisor of Physical Education.*
Samuel Adams, A.B., *Junior Supervisor of Physical Education.*
David Gorrie, M.S., *Junior Supervisor of Physical Education.*
Joe Rector, B.S., *Junior Supervisor of Physical Education.*
Edward R. Doty, M.A., *Lecturer in Physical Education.*
Willard M. Hammer, M.Ed., *Lecturer in Physical Education.*

WOMEN

Jean L. Hodgkins, Ed.D., *Professor of Physical Education.*
———, *Professor of Physical Education.*
Marian H. Anderson, M.S., *Associate Professor of Physical Education.*
Elvera Skubic, Ph.D., *Associate Professor of Physical Education (Chairman of the Department).*
Winifred W. Hodgins, M.A., *Associate Professor of Physical Education, Emeritus.*
Gladys R. Van Fossen, M.A., *Associate Professor of Physical Education, Emeritus.*
*Frances M. Colville, Ph.D., *Assistant Professor of Physical Education.*
M. Marilyn Flint, Ph.D., *Assistant Professor of Physical Education.*
Madge Phillips, Ph.D., *Assistant Professor of Physical Education.*
Elizabeth Ann Stitt, M.S., *Assistant Professor of Physical Education.*
Mary Tiffany, M.A., *Assistant Professor of Physical Education.*
Fae Witte, Pe.D., *Assistant Professor of Physical Education.*
Mary L. Mott, M.A., *Assistant Supervisor of Physical Education.*
———, *Assistant Supervisor of Physical Education.*
Katherine M. Brown, M.S., *Junior Supervisor of Physical Education.*
———, *Junior Supervisor of Physical Education.*
———, *Junior Supervisor of Physical Education.*
Emma Lou O'Brien, *Assistant in Physical Education.*

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* Absent on leave, 1961–1962.
† Absent on leave, fall, 1961.
†† Absent on leave, spring, 1962.

Services Offered by the Departments of Physical and Health Education

1. A program of activities contributing to the development and maintenance of physical fitness for all students.

2. Courses in physical education, health education, and recreation emphasizing theory and practice in desirable activities.

3. Preparation for students who wish to enter the profession of physical education, health education, recreation, or physical therapy.

4. Preparation for teaching the fundamentals and principles of physical education on the preschool, kindergarten, elementary, secondary and college levels, and for organizing and administering the program of physical education in these fields.

5. Intramural activities and corecreational sports.

6. Intercollegiate athletic competition.

Requirements for All University Students

1. A medical examination by the University physician is required of every student enrolled in the University. Upon recommendation by the University physician, a student who is unable to enroll in activity courses must enroll in special individual adaptation classes.

2. For graduation, all students are required to complete a minimum of 2 units in physical education activities. This requirement should be satisfied by enrollment in activity courses throughout four consecutive semesters.

3. A student more than twenty-three years of age at the time of initial registration will be excused from physical education, but recreational courses are recommended.

Requirement for All Men Students. The graduation requirement is fulfilled by the completion of four sections of activities offered in Physical Education 1, as follows: Entering students who have not completed the total requirement are required, in their first semester, to enroll in P.E. 1–1, Developmental Activities, in which swimming and certain other tests are given, and recommendations based thereon are provided the individual student. Those not proficient in swimming and at least one individual recreational activity should include an elementary course in these and in completing their requirement. The four sections of activity required should be completed by taking one-half unit during each semester of the first two years. Courses may be taken only once for credit.

Requirements for All Women Students. The course requirements depend upon the student's major field of study. The following courses are suggested for students whose major is in one of these three fields:

Early childhood education: Physical Education 1, sections 13, 15A, 23.
Elementary education: Physical Education 1, section 16A, and 138.
Junior high school: Physical Education 1, sections 16A, 31.

It is suggested that all other students undertake one semester each of game activity, rhythmic activity, body mechanics, and an elective course.

Requirements for the Major in Physical Education

Students may obtain the Bachelor of Arts degree in physical education upon completion of not less than 120 units of university work, including all requirements of the College of Letters and Science and the major courses outlined below for men and women.

Students with senior standing at the time of admission to the University must complete 24 units in residence, at least 12 of which must be in physical education.

Students desiring to specialize in the field of physical education must be physically sound, mentally alert, and have a high degree of neuromuscular

coordination. Candidates for the major or minor are required to demonstrate, before entering the upper division, that they possess a fair degree of skill in the various activities included in the lower division activity classes.

Men

General Requirements. English 1A–1B; Speech 11; 3 units from Speech 31, 40, 58, or English 27, 46A or 46B; History 17A–17B or Political Science 20 and History 17A or 17B or 8B; Psychology 1; 3 units from Sociology 1, Economics 1A, Geography 1A or 1B; Physics 20 or Chemistry 20; Zoology 25, 40; Biology 1A or Zoology 1A; Art 1 or 20A; Music 15 or acceptable substitute; 6 units of military science.

Preparation for the Major. Physical Education 20, Physical Education 1–16A; Physical Education 56; other activity courses. Health Education 1, 2; Home Economics 10.

The Major. Physical Education 101, 102, 105, 130, 131, 140, 154, 170, 171, 172, 173, 174, 175, 176, 177; selected activity courses; Health Education 101, 108; Education 110, 112, 119P.

Women

General Requirements. English 1A–1B; Speech 11; 3 units of English or speech elective; History 8A–8B or 17A–17B or Political Science 20 and History 17A or 17B or 8B; Psychology 1; Sociology 1; Philosophy 1 or substitute; Physics 20 or Chemistry 20; Zoology 25, 40; Biology 1A or Zoology 1A; Art 1 or 31; Music 15, Physical Education 1 (2 units).

Preparation for the Major. Physical Education 1 (at least 2 units), 20, 32A or 32B, 54; Health Education 1.

The Major. 101, 102, 105, 130, 131, 140, 160A, 162, 163A–163B; Health Education 101; Education 110, 112, 117.

Requirements for a Preparatory Course in Physical Therapy

A four-year program of preparation for entrance into accredited schools of physical therapy is available through the Women's Physical Education Department. Upon successful completion of the program, the student is awarded a Bachelor of Arts degree in physical education and will have met the requirements for entrance into physical therapy schools as established by the American Physical Therapy Association. Complete details concerning course requirements may be obtained from the department chairman.

Requirements for the Minor in Physical Education

Men

A minimum of 20 units. Courses 20, 56, 130, 131, 154; other units selected from courses 170, 171, 172, 173, 174, 175, 176, 177, 178, 179; selected activity courses; Health Education 1, 2.

Women

A total of 20 units. Courses 1 (5–6 units including sections 8 and 16A), 54, 130, Health Education 1, and one of the following: Physical Education 138, 160A, 163A, 163B. Additional units to be selected from the following: Physical Education 32A, 32B, 138, 140, 160A, 162, 163A, 163B. Selection is to be based upon the needs and interests of the student.

Requirements for the Minor in Health Education

A total of 20 units. Courses 1, 100, 101, 7 units; elect 13 units from courses 48, 103, 105, 106, 107, 108, Home Economics 10, Psychology 33, Biology 180.

The Master of Arts Degree

In addition to the general admission requirements for the degree of Master of Arts, candidates will be screened for certain aptitudes, competencies, and personality characteristics. Specific requirements governing the work for the degree in physical education are as follows:

1. Candidates must complete at least 24 units of course work plus a thesis. At least 15 units must be in the major and at least 12 of the 24 units must be taken in the 200 series.
2. A maximum of 4 units in education is allowed toward the degree. Education 190 and 192 may not be utilized to satisfy the 24-unit requirement.
3. Each master's degree candidate is expected to select as an area of concentration one of the theoretical disciplines which underlies physical education such as the natural sciences, social sciences, psychology, humanities or fine arts. Three to 6 units of the student's elective work must be taken in this area of concentration.

Professional Training in Recreation

A program of preparation for leadership in recreation is available through the Departments of Physical and Health Education. The 20-unit program is open to both men and women. The major in physical education, although advantageous, is not required for the program in recreation.

Required basic program includes 12 units, as follows: Health Education 2, Physical Education 140, 141, 143, 145. Eight additional units are selected from a variety of courses related to outdoor activities, social activities, arts and crafts. Complete details may be obtained from the department chairman.

Teaching Credentials

The General Secondary Credential, Teaching Major

1. In addition to the requirements for the major specified on pages 176 and 177, the following physical education courses are needed for the general secondary credential:

	Units
201. The Secondary School Curriculum in Physical Education.	3
The following electives are available:	
200-Series Courses	2–4
235. Evaluation Procedures in Physical Education	2
250. Philosophies of Health, Physical Education, and Recreation	3
252. Critical Issues in Health, Physical Education, and Recreation	3
276. Fundamentals of Research	3

2. A minor in one of the areas represented by the fine arts, social sciences, humanities, or natural sciences is required.

3. See page 110 for education course requirements.

The General Secondary Credential, Teaching Minor

For information concerning a teaching minor for the general secondary credential, confer with department chairmen.

The Special Secondary Credential

To obtain the special secondary teaching credential in physical education, the student must pass the proficiency and speech tests and complete 15 additional units in education as follows: Education 117 (men), 119P (women), 147, 170, P 190, P 192.

Other Credentials

Programs are available also for general elementary and junior high school credentials with a major in physical education. Details may be obtained from department chairmen.

Physical Education for Men and Women

ACTIVITY COURSES

1. Fundamental Sports Activities. (½) I, II. The Staff

The physical education activities listed below are designed to provide a basic program by which students may improve their physical condition, secure useful neuromuscular development, and gain recreational skills. Any course listed may be elected for credit by juniors and seniors. The letter A indicates elementary level; B, intermediate level; and C, advanced level. Permission to take the advanced courses, without having previously completed the elementary courses, must be received from the Departments of Physical Education. Classes meet two periods weekly and provide instruction and supervised practice in the fundamentals of each activity. With the exception of Individual Adaptations, an activity may be taken only once for credit. Students with physical handicaps, recommended for restricted, remedial, or other special programs by the University physician or the Department of Physical Education, may fulfill the graduation requirement by enrolling in the section in Individual Adaptations. Of the four semesters required, men must take one semester in the freshman year in Developmental Activities.

*1. Developmental Activities, I, II.
3A–3C. Archery, I, II.
4A–B–C. Badminton, I, II.
*5A. Elementary Baseball, II.
*6A. Elementary Basketball, II.
‡7A–7C. Boating and Sailing, I, II.
8. Body Mechanics and Relaxation, I, II.
‡9A–B–C. Bowling, I, II.
*10A–10C. Boxing, I, II.
13. Creative Rhythmic Activities for Children, I, II.
*14A–14C. Cross Country, I.
15A–B–C. Modern Dance, I, II.
15D. Modern Dance Composition, I, II.
16A–B–C. Folk Dance, I, II.
17A–17B. Social Dance, I, II.
18A–B–C. Fencing, I, II.
†19. Field Sports, I.
*21A. Elementary Football, I, II.
23. Games for Children, I, II.
24A–B–C. Golf, I, II.
25A–B–C. Gymnastics, I, II.
27. Individual Adaptations, I, II.
28. Recreational Games, I, II.
29. Rhythmic Exercise, I, II.
*30A–30C. Soccer, I, II.
†31. Softball and Basketball, I, II.
34A–B–C. Swimming, I, II.
35. Synchronized Swimming, I, II.
38A–B–C. Tennis, I, II.
*39A. Elementary Track and Field, II.
40. Volleyball, I, II.
*41A–41B. Water Polo, I.
43A–43C. Weightlifting, I, II.
*44A–44C. Wrestling, I, II.

Physical Education for Men and Women

LOWER DIVISION COURSES

All courses are open to men and women unless otherwise indicated.

20. Introduction to Physical Education. (2) I, II. Miss Stitt

An interpretation of the field designed to give the prospective major student an understanding of its scope.

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* Courses open to men only.
† Courses open to women only.
‡ A fee is charged for use of equipment and facilities not owned by the University. Direct payment will be made by the student.

†**32A–32B. Principles of Officiating.** (1–1) I, II. Miss Mott, Miss Phillips
Prerequisite: Physical Education 1–19, 1–31, 1–34A, 1–34B.
The principles, ethics and standards of officiating team and individual sports. Lecture and laboratory.

45. History and Appreciation of Dance. (2) I, II. Miss Tiffany
A cultural background and appreciation of the various forms of dance and the relation of dance to other art forms from the primitive expression to contemporary trends.

48. Fundamentals of Mime. (2) I, II. Miss Tiffany
The historical development of mime including Classic, Medieval, Italian Commedia Dell'Arte, and contemporary mime. Practical experience in traditional forms and experimental work in creative expression.

50A–50B. Appreciation of Sports. (2–2) I, II. Mr. Wilton, The Staff
Lecture, demonstrations, and selected learning experiences for the general University student leading to an understanding and appreciation of athletics and recreational sports.

54. Analysis of Rhythm and Movement. (1) II. Mrs. O'Brien
Rhythm and form in relation to performance. Application of body dynamics. Lecture and laboratory.

***56. Activities for Gymnasium and Field.** (2) I, II.
One lecture, two laboratory periods. Mr. Rohter, Mr. Williamson
Apparatus work, tumbling, stunts, group games, combatives, marching, sports, and contests, emphasizing the elementary and junior high school age groups.

***80. Intercollegiate Sports.** ($\frac{1}{2}$) I, II. The Staff
Competitive sports open, by permission of the instructor, to students qualified and eligible to participate in intercollegiate athletics. A special medical examination is required prior to competition. Sports offered include:

5. Baseball, II.
6. Basketball, I.
14. Cross Country, I.
21. Football, I.
24. Golf, II.
25. Gymnastics, I.
34. Swimming, II.
38. Tennis, II.
39. Track, II.
41. Water Polo, I.
44. Wrestling, II.

Upper Division Courses

101. Kinesiology. (3) I, II. Miss Flint, Mr. Kelliher
Lectures and laboratory. Prerequisite: Zoology 25, 40.
Physical structure and muscular movements in various physical education activities. Description and application of certain anatomical concepts and physical laws to joint and muscular action.

102. Individual Program Adaptations. (3) I, II. Miss Flint, Mr. Michael
Prerequisite: Physical Education 101, 105, Zoology 25, 40. Also, Physical Education 1–8 for women.
Types and significance of the principal divergencies requiring a modified program of physical activity, together with the program adjustments recommended for each.

105. Physiology of Exercise. (3) I, II. Mr. Michael, Miss Skubic
Prerequisite: Zoology 25, 40.
The neuromuscular mechanism and the metabolic, muscular, circulatory,

* Courses open to men only.
† Courses open to women only.

and respiratory responses in physical exercise, and their integration by means of the nervous system.

130. Principles of Physical Education. (3) I, II. Miss Hodgkins, Mr. Wilton
The nature and history of physical education; its place and contributions in the educational program and in the world of today.

131. Administration of Physical Education. (3) I, II.
Prerequisite: Physical Education 130. Mr. Gallon, Miss Hodgkins
Organization and administration of programs of health and physical education.

138. Physical Education in the Elementary School. (3) I, II. Mrs. Anderson
Prerequisite: Physical Education 1–16A, or consent of the instructor.
Principles and practices in the conduct of programs in the elementary school. Non-physical education majors only.

140. Community Recreation. (3) I, II. Miss Hodgkins, Mr. Williamson
Fundamentals of community recreation, its objectives, principles, program, procedure, and administration.

141. Youth-Serving Organizations. (3) I. Mr. Carter
Community youth organizations, their objectives, organization, and administration.

143. Theory and Techniques of Recreation. (3) II. Mr. Williamson
Prerequisite: Physical Education 140.
Theory and techniques of directing community recreation activities.

145. Field Training in Recreation. (2) I, II. The Staff
Supervised experience in leading community recreation activities.

***151A–151B. Theory of Officiating.** (1–1) Yr. The Staff
Analysis and interpretation of rules of various sports, including football, basketball, baseball, track and field.

154. Conditioning of Athletes and Care of Injuries. (2) I, II. Mr. Wilton
Prerequisite: Health Education 2.
Modern principles and practices of conditioning athletes, with emphasis on the prevention and care of athletic injuries. Bandaging, therapy, health habits, and protective equipment.

160A–160B. Theory of Dance. (2–2) Yr. Miss Tiffany
Lecture and laboratory. Prerequisite: Physical Education 1–15A, 1–15C, 1–15D, 54.
Modern dance techniques and teaching procedures. History and philosophy of the dance and practice in techniques of composition and production.

162. Physical Education and Recreation for Children. (2) I, II. Miss Witte
Prerequisite: Physical Education 1–16A. For physical education majors only.
Organization and administration of elementary school physical education programs.

†163A–163B. Physical Education in the Secondary School. (4–4) Yr.
Miss Colville, Miss Phillips, Miss Witte
Principles and practices in the conduct of physical education programs in the secondary school.

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* Courses open to men only.
† Courses open to women only.

*170–177. **Theory and Teaching of Sports.** (1) The Staff
One lecture and one demonstration or practice period per week. Prerequisite: squad experience or proficiency test in subject area unless otherwise stated.
Organization, conduct, officiating, and management of class session or contest; analysis, demonstration, practice of fundamentals and team play.

170. Theory and Teaching of Football. I, II. The Staff

171. Theory and Teaching of Basketball. I, II. Mr. Gallon

172. Theory and Teaching of Baseball. I, II. Mr. Gorrie

173. Theory and Teaching of Track and Field. I, II. Mr. Carter

174. Theory and Teaching of Racket Sports. I, II. Mr. Thornton

175. Theory and Teaching of Swimming. I, II. Mr. Dearborn, Mr. Rohter

176. Theory and Teaching of Individual Sports. I, II. Mr. Adams

177. Theory and Teaching of Rhythm and Dance. I, II. Mr. Rohter

178. Water Safety. (1) I, II. Mr. Dearborn
Prerequisite: Physical Education 179 or current American Red Cross senior lifesaving certificate. Leads to the American Red Cross water safety instructor's certificate.

179. Lifesaving. (1) I, II. The Staff
One lecture and one pool period per week. Leads to American Red Cross senior lifesaving certificate.

*180. **Varsity Intercollegiate Sports.** ($\frac{1}{2}$) I, II. The Staff
Competitive sports open to students qualified and eligible to participate in intercollegiate athletics. A special medical examination is required prior to competition.

5. Baseball, II.
6. Basketball, I.
14. Cross Country, I.
18. Fencing, I.
21. Football, I, II.
24. Golf, II.
25. Gymnastics, I.
34. Swimming, II.
38. Tennis, II.
39. Track, II.
41. Water Polo, I.
44. Wrestling, II.

194A–194B. Group Studies for Advanced Students. (1–2) I, II.
Prerequisite: consent of the instructor. Miss Flint, Miss Stitt
A critical review of literature and trends in selected areas, such as aquatics, adaptive physical education, or dance.

199. Independent Studies in Physical Education. (1–4) I, II. The Staff
Open only to senior students approved by the department chairman and the faculty members involved.
Study of special problems in physical education or recreation.

Graduate Courses

201. The Secondary School Curriculum in Physical Education. (3) I, II.
Miss Hodgkins, Mr. Harder
A study of the physical education programs in American schools with an emphasis on the analysis and observation of the various types of programs at the secondary level.

* Courses open to men only.

235. Evaluation Procedures in Physical Education. (2) I, II.
Prerequisite: Education 119P. Miss Colville, Mr. Rochelle
The application of advanced statistics to problems in physical and health education with special reference to tests and other research.

250. Philosophies of Health, Physical Education, and Recreation. (3) I, II.
Miss Hodgkins, Mr. Wilton
Prerequisite: Physical Education 130 and an introductory course in philosophy or equivalent.
An examination of philosophical thinking in the field, the early historical thought that influenced current beliefs, and implications for the future. A further study by the student directed toward the formulation of his professional philosophy in health, physical education, and recreation.

252. Critical Issues in Health, Physical Education, and Recreation. (3) I, II. Mr. Harder, Miss Hodgkins
Current problems, trends, and research in health, physical education, and recreation: their scope and implications.

276. Fundamentals of Research. (3) I, II. Miss Skubic, Mr. Rochelle
Prerequisite: Education 119P and Psychology 5, or equivalents.
Research in health, physical education, and recreation. Review of the research methods, techniques, and devices used.

299. Directed Research. (2–4) I, II. The Staff

Related Courses in Another Department

Education 119P. Measurement and Evaluation in Physical Education. (2) I, II. Miss Colville, Mr. Rochelle

Education P 190. Teaching Procedures in Physical Education. (2) I, II.
Miss Hodgkins, Mr. Wilton

Education P 192A–B–C. Student Teaching: Physical and Health Education. (2–2–2) I, II. The Staff

Health Education

MEN AND WOMEN

Lower Division Courses

1. Personal Health Problems. (2) I, II. Miss Flint, Mr. Reynolds
Factors influencing health, with special attention to personal health problems of heredity and reproduction, nutrition, excretion, exercise, rest, recreation, mental hygiene, and the evaluation of health information.

2. Standard First Aid. (1) I, II. Mr. Dearborn, Mr. Holland
Leads to the standard certificate of the American Red Cross.

48. Health Program for Elementary Schools. (2) I, II.
Mr. Holland, Mr. Reynolds
Health information needed by the elementary classroom teacher for effective participation in the school health program, and for the protection and promotion of the physical, mental, and social health of students and teachers.

Upper Division Courses

100. Organization and Administration of the School Health Program. (2) I. (Alternate years) Mr. Dearborn

101. School Health Education. (3) I, II. Mr. Dearborn, Mr. Lantagne
Prerequisite: Health Education 1.
Objectives, principles, scope, and content of health education for elementary and secondary schools, with study and practice in the selection, use, and evaluation of teaching methods and materials.

105. Safety Education and Accident Prevention. (2) I, II. Mr. Holland
Causes and prevention of the principal types of accidents occurring on the streets and highways, in recreation, and in the home and school.

107. Community Health Agencies. (2) II. (Alternate years). Mr. Lantagne
The organization and program of community health agencies, including those of private, voluntary, official, and professional nature.

108. Preparation for Marriage and Parenthood. (2) I, II. Mr. Lantagne
Tenets underlying successful marriage, emphasizing physiological and emotional factors.

199. Independent Studies in Health Education. (1–4) I, II. The Staff
Open only to advanced students approved by the department chairman and faculty members involved.
Study of special problems in health education.

PHYSICAL SCIENCE

The interdepartmental major in physical science is a curriculum designed for students desiring a wider but less specialized knowledge of the several physical sciences, and can be used by those desiring a general secondary credential. This major is supervised by the Department of Chemistry, and interested students should contact that department for information and for assignment to an adviser.

Preparation for the major	*Units*
Mathematics C, 3A–3B, 4A	9–11
Physics 4A–B–C	12
Chemistry 1A–1B, General Chemistry	8
Geology 2, 3, and 7; or Geology 2, 7, and Mineralogy 6A–6B; or Geology 101 and selected upper division geology courses	6–8

The Major

Twenty additional units selected from chemistry, geology, and physics, with at least 6 units in two different fields and 12 units in the upper division.

Requirements for the minor

The interdepartmental minor in physical science consists of 20 units, at least 6 of which are in upper division courses. Such a minor satisfies the requirements for the general junior high and general secondary credential (the latter requires an additional course in biology). Students desiring this minor should consult with the Department of Chemistry concerning courses acceptable.

PHYSICS

E. Allan Williams, Ph.D., *Professor of Physics.*
Paul H. Barrett, Ph.D., *Associate Professor of Physics. (Chairman of the Department).*
Leonard H. Hall, Ph.D., *Associate Professor of Physics.*
———, *Associate Professor of Physics.*
———, *Associate Professor of Physics.*
Peter J. Redmond, Ph.D., *Assistant Professor of Physics.*
William C. Walker, Ph.D., *Assistant Professor of Physics.*

Preparation for the Major

Required courses:	*Units*
Physics 4A–B–C–D. General Physics	14
Mathematics 3A–3B, 4A–4B	12
Chemistry 1A–1B. General Chemistry	8
Recommended courses:	
Mathematics 119A	3

The Major (24 units of upper division courses)	*Units*
Physics 105A. Analytic Mechanics	3
Physics 110A–110B. Electricity and Magnetism	6
Physics 110C–110D. Modern Physics Laboratory	3
Physics 112. Heat and Thermodynamics	3
Physics 127A–B–C. Principles of Modern Physics	9

Requirements for the Minor

The Department of Physics offers a minor in physics consisting of 20 units of basic physics courses, at least 6 of which are in upper division courses. Students wishing a minor in physics should consult the department chairman before enrolling as a minor.

The Master of Arts Degree. Candidates for admission must present a bachelor's degree with a major in physics or the equivalent. Entering students will be appraised by means of examination and evaluation of records; where necessary, supplementary courses will be required.

Requirements:

1. Completion of 24 units of approved course work. A minimum of 12 units is to be taken in graduate courses (200 series). The remaining courses may be selected from upper division or graduate courses in mathematics, chemistry or physics, after approval by the department.
2. A reading knowledge of scientific French, German, or Russian.
3. Completion of Plan I or II:
   I. Thesis and final oral examination.
   II. Written comprehensive examination and final oral examination.

The General Secondary Credential

Candidates for the general secondary credential must complete the physics major requirements above. See page 110 for course requirements in education.

Related Curriculum: Physical Science. Physics may be offered as one area of concentration for partially fulfilling the requirements of the interdepartmental major in physical science. See page 185 for details.

An interdepartmental minor in physical science is available. Consult the adviser for the physical science major for details.

Astronomy

Lower Division Course

1. Introduction to Astronomy. (3) I. Mr. Redmond
Lecture, three hours.
The nature and structure of the solar system, our local galaxy, and the universe. Current cosmological theories. Discussion of experimental and observational techniques. Occasional evening periods of observation.

Physics

Lower Division Courses

2A–2B. General Physics. (4–4) Yr. The Staff
Lecture, three hours; laboratory, three hours. Prerequisite: two years of high school algebra or its equivalent and Mathematics C or its equivalent (may be taken concurrently).
Mechanics, properties of matter, heat, sound, light, electricity, atomic physics. Primarily for students preparing for the scientific professions other than physics, chemistry, and engineering.

4A. General Physics. (4) II. The Staff
Lecture, three hours; laboratory, three hours. Prerequisite: Integral calculus (may be taken concurrently).
Mechanics, properties of matter, wave motion, and sound.

4B. General Physics. (4) I. The Staff
Lecture, three hours; laboratory, three hours. Prerequisite: Physics 4A and integral calculus.
Electricity, magnetism, and modern physics.

4C. General Physics. (4) II. The Staff
Lecture, three hours; laboratory, three hours. Prerequisite: Physics 4A and integral calculus.
Heat, light, and modern physics.

4D. General Physics. (2) II. The Staff
Lecture, one hour; laboratory, three hours. Prerequisite: Physics 4B.
Introductory electronics.

20. Concepts of Physics. (3) Yr. The Staff
Lecture, three hours.
An introduction to the important concepts and achievements of physics. (Not open to students who have completed satisfactorily a high school or college course in physics).

21. Basic Physics Laboratory. (1) Yr. The Staff
Laboratory, three hours.
May be taken separately following Physics 20 or 101 or concurrently with either of these courses.
Experiments and demonstrations illustrating basic physical concepts.

Upper Division Courses

101. Descriptive Modern Physics. (3) Yr. The Staff
Lecture, three hours. Prerequisite: A high school or college course in physics.
Modern physical theories with applications chosen from atomic, nuclear, fundamental particle, solid state, and space physics.

105A. Analytic Mechanics. (3) I. Mr. Hall, Mr. Williams
Lectures, three hours. Prerequisite: Physics 4A–B–C, integral calculus. Recommended: differential equations.
Dynamics and statics of particles and rigid bodies.

***108B. Physical Optics.** (3) II. Mr. Williams
Lecture, three hours. Prerequisite: Physics 4A–B–C.
Physical optics and selected topics in microwaves and spectroscopy.

110A–110B. Electricity and Magnetism. (3–3) Yr.
Mr. Redmond, Mr. Williams
Lecture, three hours. Prerequisite: Physics 105A and Mathematics 119A.
Elementary mathematical theory of electricity and magnetism; steady and varying currents; electronic circuits. Maxwell's equations and electromagnetic radiation.

110C–110D. Modern Physics Laboratory. (1–2) Yr. The Staff
Laboratory: 110C three hours, 110D six hours.
Prerequisite: Physics 110A and 127A. Physics 110C is prerequisite to 110D.
The use and calibration of electrical and electronic instruments. The techniques and experiments that form the foundation of atomic, nuclear, and solid state physics.

112. Heat and Thermodynamics. (3) II. The Staff
Lecture, three hours. Prerequisite: Physics 4A–B–C and Mathematics 4B.
Thermodynamics and an introduction to kinetic theory and statistical mechanics.

***115. Introduction to Quantum Mechanics.** (3) I or II. Mr. Hall, Mr. Walker
Prerequisite: courses 105A, 121, and Mathematics 119A.
Physical ideas and mathematical formulation of quantum mechanics, with applications to atomic and molecular systems.

***120A. Experimental Techniques in Physics.** (1) II. The Staff
Laboratory, three hours. Prerequisite: consent of the instructor.
Glass working, soldering, brazing, machine tool operation, maintenance and repair of apparatus.

124C. Nuclear Physics Laboratory. (1) II. Mr. Barrett
Laboratory, three hours. Prerequisite: upper division status in physical or biological sciences.
Radioactive measurements and operations; health physics; radiochemical and radiobiological tracer experiments.

127A. Principles of Modern Physics. (3) II. Mr. Walker
Lecture, three hours. Prerequisite: Physics 105A, Mathematics through differential equations.
Introduction to the Special Theory of Relativity, transition from Classical to Quantum Physics. Introduction to Quantum Theory.

127B. Principles of Modern Physics. (3) I. Mr. Walker
Lecture, three hours. Prerequisite: Physics 127A.
Electronic structure of atoms and molecules. Atomic and molecular radiation. Introduction to Quantum distribution laws, solid state physics, and low temperature physics.

* Not to be given, 1961–1962.

127C. Principles of Modern Physics. (3) II. Mr. Barrett
Lecture, three hours. Prerequisite: Physics 127B.
Nuclear and Fundamental particle physics; Basic properties and structure of nuclei, radioactivity, nuclear reactions. Fundamental particle properties and interactions.

***130. Introduction to Solid State Physics.** (3) I or II. Mr. Hall, Mr. Walker
Lecture, three hours. Prerequisite: courses 105 and 121.
Lattice structure; thermal, dielectric, and magnetic properties; free electron and band theory of metals; semiconductors, imperfections.

199. Independent Studies in Physics. (1–4) I, II. The Staff
Directed individual study, normally experimental, open to qualified seniors in the Department of Physics.

Graduate Courses

200. Mathematical Methods in Physics. (3) I or II. The Staff
Lecture, three hours.
Selected topics from linear algebra, tensor analysis, differential equations, integral equations, variational calculus, group theory.

201A–201B. Topics in Advanced Physics. (3–3) Yr. The Staff
Lecture, three hours.
The course content will vary in different years and will be selected from such topics as atomic physics, electrodynamics, statistical mechanics, experimental and theoretical nuclear physics, the solid state.

205. Classical Dynamics. (3) I. Mr. Hall, Mr. Walker
Lecture, three hours.
Equations of Lagrange, Hamilton, and Jacobi; variational formulation; transformation theory; relativistic particle; motion of rigid bodies.

210. Electromagnetic Theory. (3) I or II. Mr. Redmond
Lecture, three hours.
The classical electromagnetic field, electron theory; special relativity.

215. Quantum Mechanics. (3) II. Mr. Hall, Mr. Redmond
Lecture, three hours.
Fundamental principles; wave mechanics, matrix mechanics; perturbation theory; spin and orbital angular momentum; applications to atomic, molecular or nuclear systems.

260. Seminar. (1) I, II. The Staff
Prerequisite: consent of the instructor. May be repeated for credit up to 2 units.

298. Directed Studies. (2–4) I, II. The Staff
Prerequisite: consent of the instructor. May be repeated for credit up to 8 units.

299. Research. (1–4) I, II. The Staff
Research, either experimental or theoretical, may be undertaken by properly qualified graduate students under the direction of a staff member.

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* Not to be given, 1961–1962.

POLITICAL SCIENCE

D. Mackenzie Brown, Ph.D., *Professor of Political Science.*
Stephen S. Goodspeed, Ph.D., *Professor of Political Science.*
William Ebenstein, Ph.D., *Visiting Professor of Political Science.*
Gordon E. Baker, Ph.D., *Associate Professor of Political Science.*
Henry A. Turner, Ph.D., *Associate Professor of Political Science (Chairman of the Department).*
Stanley Anderson, Ph.D., *Assistant Professor of Political Science.*
Edgar Lane, Ph.D., *Assistant Professor of Political Science.*
*Peter H. Merkl, Ph.D., *Assistant Professor of Political Science.*

Preparation for the Major

Required courses: *Units*

1. Political Science 50. Political Ideas and Institutions 3
   and either
2. Political Science 20. American Government and Politics, *or*
   Political Science 100. American National Government 3
3. History 4A–4B. History of Europe, *or*
   History 17A–17B. Political and Social History of the United States 3–3

The Major

Required: 24 units of upper division work in political science.† The work offered by the department falls into the following six fields:

1. Political Theory
2. Public Law
3. Politics
4. International Relations
5. Comparative Government
6. Public Administration

The student, in consultation with his major adviser, will select at least one course in each of four of the above six fields.

The Master of Arts Degree

The M.A. degree in political science is offered both under Plan I, the thesis plan, and Plan II, the comprehensive examination plan. The department normally operates under Plan I, but in exceptional cases the student, with the consent of the department chairman, may follow Plan II.

Plan I. Thesis Plan

1. Candidates must complete at least 24 units of course work *plus* a thesis.
2. At least 12 of the units of course work must be taken in strictly graduate courses in political science (*including* Political Science 203. Theory and Method in Political Science). A maximum of 4 of these units may be in 299 courses representing credit for research underlying the thesis. The remaining units making up the required total of 24 may be chosen from additional graduate courses or from undergraduate courses numbered 100 or above. With the approval of the student's adviser, a maximum of 6 of these remaining units may be included from graduate or upper division courses in a related discipline.

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* Absent on leave, fall, 1961.

† Political Science 100 does not normally count toward the 24-unit upper division requirement for the major. In certain cases, the major adviser may approve the inclusion of a maximum of two courses in other social sciences or history as part of the total 24 units.

3. Candidates will be required to complete in graduate standing course work in four of the political science fields.
4. Before certifying a student for formal advancement to candidacy, the department reserves the right to satisfy itself as to the candidate's proficiency by means of special written examinations.

Plan II. Comprehensive Examination Plan

1. Candidates must complete at least 24 units of course work.
2. At least 12 of the units of course work must be taken in strictly graduate courses in political science (*including* Political Science 203, Theory and Method in Political Science). The remaining units making up the required total of 24 may be chosen from additional graduate courses or from undergraduate courses numbered 100 or above. With the approval of the student's adviser, a maximum of 6 of these remaining units may be included from graduate or upper division courses in a related discipline.
3. Candidates will be required to complete in graduate standing course work in five of the political science fields.
4. The candidate must pass a written examination in one field and an oral examination in two other fields of political science.

Teaching Credentials, Teaching Majors, Teaching Minors. The manner in which the various teaching credentials may be obtained is governed by rules laid down by the California State Board of Education. Requirements for majors and minors in the *social studies* for general secondary and junior high school teaching credentials are listed on pages 200 and 201 of this bulletin, under the heading of "Social Sciences."

Combination Social Sciences Major

Students interested in obtaining a major in the combined social sciences, see listing under "Social Sciences," page 200 of this bulletin.

Lower Division Courses

20. American Government and Politics. (3) I, II. The Staff

The constitutional principles and political institutions of the United States and the State of California.

For ways of satisfying the requirement in American History and Institutions, see pages 62 and 63.

50. Political Ideas and Institutions. (3) I, II. Mr. Baker, Mr. Merkl

Prerequisite: sophomore standing.

The nature and processes of government, with a comparative analysis of significant institutions in selected western nations. Democracy and dictatorship in theory and practice.

Upper Division Courses

100. American National Government. (3) I, II. Mr. Turner

Institutions of our national government and the political ideas on which these institutions have been established; the role of Congress, the President, the courts, administrative agencies, and regulatory legislation. Not open to students who have received credit for Political Science 20.

113. American Political Thought. (3) I. Mr. Baker

The origin and development of significant political ideas in the United States, as expressed in the contributions of selected thinkers.

117. Law in the Modern State. (3) I. Mr. Anderson
The role of law in modern democratic society; American legal institutions and ideas; the relationship between legal and other social institutions.

121. International Relations. (3) I, II. Mr. Anderson, Mr. Goodspeed
The nation-state system and the forces which operate in world politics.

124. International Organization. (3) II. Mr. Goodspeed
The nature and function of international organization, stressing an evaluation of the experience of the League of Nations and the United Nations; regional organizations and specialized agencies.

129. The Foreign Policies of the Great Powers. (3) I, II. Mr. Goodspeed
Contemporary policies of Britain, France, Russia, Germany, Italy.

133. International Law. (3) I. Mr. Anderson
Nature and sources of international law; international legal personality; nationality; territory; jurisdiction; diplomatic and consular agents; treaties; war; neutrality.

136. Political Development of the Far East. (3) I. Mr. Brown
The political concepts, governmental evolution, and international relations of China, Japan, Korea, and related areas.

137. Political Development of South Asia. (3) II. Mr. Brown
The political concepts, governmental evolution, and international relations of India, Pakistan, Ceylon, and related areas.

141A–141B. European Governments. (3–3) Yr. Mr. Ebenstein, Mr. Merkl
The political institutions and ideas of the major powers. Emphasis on Britain, France, Germany, the Soviet Union. (No more than 3 units credit of this sequence may be taken by students who have received credit for Political Science 2 prior to 1959–1960.)

148. Governments of Latin America. (3) I. Mr. Goodspeed
The constitutional development, governmental organization, and political practices of the Latin American states.

149. Latin America in World Affairs. (3) II. ———
Relations of Latin America with the United States and other world powers; Pan-Americanism and its relation to world organization.

152. Political Parties and Politics. (3) I. Mr. Turner
The nature, characteristics, and history of American political parties, party organization; political campaigns and finance; nominations, elections, and electoral problems.

153. Pressure Groups and Propaganda. (3) II. Mr. Turner
The nature and function of organized interest groups and their impact upon public opinion and government; the manipulation of public opinion and the relationship of propaganda to other forms of political power.

157. American Constitutional Law. (3) II. Mr. Baker
The development of the United States Constitution, as reflected in decisions of the Supreme Court; political, economic, and social relationships.

162. Metropolitan Government and Politics. (3) II. Mr. Lane
Problems of politics and administration in urban and metropolitan areas.

172. State and Local Government. (3) II. Mr. Baker
Basic problems and recent developments, including intergovernmental relations in the American federal system.

181. Principles of Public Administration. (3) I. Mr. Lane
The role of administration in the modern state, including problems of organization, interlevel relationships, fiscal organization and control, personnel administration, and administrative regulation.

183. Problems in Public Administration. (3) II. Mr. Lane
The identification and analysis of selected problems in public administration: organization, personnel, management, budgeting, and public relations.

187. East Asian Ideologies. (3) I. Mr. Brown
The political, social, and religious concepts of the Far East (Confucianism, Taoism, Shinto) and South Asia (Hinduism, Buddhism, Jainism). Their effects upon individual citizens and national institutions.

189A–189B. Political Theory. (3–3) Yr. Mr. Brown, Mr. Merkl
Theories of political control and the relationship of man and the state.

199. Independent Studies in Political Science. (1–4) I, II. The Staff
Admission by special permission only. For majors.

Graduate Courses

203. Theory and Method in Political Science. (3) I. Mr. Brown
Required of all candidates for the Master of Arts degree in political science.

250. Seminar in International Relations. (3) II. Mr. Goodspeed

255. Seminar in American Political Ideas and Institutions. (3) I. Mr. Baker

256. Seminar in Comparative Government. (3) I. Mr. Ebenstein
Prerequisite: Political Science 141A–141B, or permission of the instructor.

***257. Seminar in Public Law.** (3) II. ———
Prerequisite: undergraduate work in Public Law, or permission of instructor.

258. Seminar in Public Administration. (3) I. Mr. Lane
Prerequisite: undergraduate work in Public Administration, or permission of the instructor.

259. Seminar in Public Policy Formation. (3) II. Mr. Turner

268. Seminar in East Asian Governments and International Relations. (3) II. Mr. Brown

298. Special Studies. (1–4) I, II. The Staff

299. Directed Research. (2–4) I, II. The Staff
Prerequisite: graduate standing and consent of the instructor.

* Not to be given 1961–1962.

PSYCHOLOGY

William D. Altus, Ph.D., *Professor of Psychology.*
Robert M. Gottsdanker, Ph.D., *Professor of Psychology (Chairman of the Department).*
Alma B. MacGregor, Ph.D., *Professor of Psychology.*
John W. Cotton, Ph.D., *Associate Professor of Psychology.*
Loy S. Braley, Ph.D., *Assistant Professor of Psychology.*
Berne Jacobs, Ph.D., *Assistant Professor of Psychology.*
Charles G. McClintock, Ph.D., *Assistant Professor of Psychology.*
*Robert W. Reynolds, Ph.D., *Assistant Professor of Psychology.*

Preparation for the Major

Three lower division departmental courses are required: Psychology 11, Psychology 12, Psychology 5. These three courses must be passed with an average grade of C or higher. If the student has already passed a one semester course in general psychology before becoming a major in this department, he will be considered to have passed the Psychology 12 requirement and will be eligible to enter Psychology 11. Ordinarily, Biology 1A will be taken in the first semester of the freshman year and Psychology 11 in the second semester. The following courses in other departments are required:

	Units
Biology 1A. Fundamentals of Biology	4
Biology 1B. Concepts of Biology	3
Chemistry 20. Introductory Chemistry *and* Chemistry 21. Laboratory in Introductory Chemistry *or* Chemistry 40. Fundamentals of Organic Chemistry *and* Chemistry 41. Laboratory in Organic Chemistry	4
Physics 20. Concepts of Physics *and* Physics 21. Basic Physics Laboratory *or* Physics 101. Descriptive Modern Physics *and* Physics 21. Basic Physics Laboratory	4

Allowable substitutions are: Zoology 1A (4) for Biology 1A; Zoology 1B (4) for Biology 1B; Physics 2A–2B (4–4) for Physics 20, 21 (recommended for students with especial interest in psychophysics).

Mathematics D must be taken before Psychology 5 in the event that the student has not completed the second year of high school algebra.

Requirements for the Major

Psychology 106 is the only upper division course that is specifically required. An additional 18 units in upper division psychology courses must be taken to complete the major. There must be included at least three courses in which controlled observation or the analysis of the actual results of such observations comprise the principal activity. These courses are shown in the following groups.

Group I. 108C, 130C, 131C
Group II. 142, 162, 163A, 163B, 164, 178

Further, at least one course must be taken in each group.

Requirements for the Minor

Psychology 11, Psychology 12, Psychology 5, and 11 units of upper division courses in psychology will satisfy the requirements for a minor.

The Master of Arts Degree

The Graduate Record Examination must be completed before a petition for acceptance as a graduate student will be acted upon. The candidate for the

* Absent on leave 1961–1962.

master's degree must satisfy the unit course requirements prescribed by the University; in addition, he must write a thesis.

Lower Division Courses

1. Concepts of Psychology. (3) I, II. The Staff
Lecture, three hours. Not open to juniors or seniors without permission of the instructor. (See Psychology 101.)
A general education course in psychology. An examination of the subject matter and methods of psychology, with emphasis on those concepts which relate most directly to an understanding of human behavior.

5. Introduction to Psychological Measurements. (3) I, II.
Mr. Cotton, Mr. Jacobs
Lecture, two hours; laboratory, two hours. Prerequisite: second-year high school algebra or Mathematics D.
Measures of central tendency and of dispersion, correlation, the significance of differences. The interpretation of statistical data in psychological research.

11. General Psychology. (3) I, II. The Staff
Lecture, two hours; demonstration and discussion, two hours. Prerequisite: Biology 1A or its equivalent, or Psychology 1.
Sensory processes, perception, learning, drives, central physiological mechanisms.

12. General Psychology. (3) I, II. The Staff
Lecture, two hours; demonstration and discussion, two hours. Prerequisite: Psychology 11. Not open for credit to students who have had Psychology 1 or 101.
Personality, motivation, aptitudes, social behavior.

33. Personal and Social Adjustment. (3) I or II. Mr. Altus, Mr. Braley
Prerequisite: Psychology 1 or 11.
Orientation in the practical use of psychological principles in problems and circumstances encountered in the university and in later life.

Psychology 1 or its equivalent is required for admission to all upper division psychology courses for non-psychology majors. Certain courses have additional prerequisites as noted.

Upper Division Courses

101. Principles of Psychology. (3) I, II. The Staff
Prerequisite: open to upper division students who do not have credit for Psychology 1, 11, or 12.
May be offered in substitution for Psychology 1 as a general education course and as the prerequisite for certain upper division courses.
A critical discussion of the major problems and points of view in psychology. Topics include motivation, perception, personality, and learning.

104. Principles of Test Construction. (3) I or II. Mr. Reynolds
Lecture, two hours; laboratory, two hours. Prerequisite: Psychology 5, or consent of the instructor.
Methods by which objective tests, such as those of aptitude or achievement, are constructed and analyzed. The logic underlying these procedures.

106. Experimental Psychology. (3) I, II. Mr. Gottsdanker, Mr. Jacobs
Lecture, two hours; laboratory, four hours. Prerequisite: Psychology 5.
Analysis and application of manipulative and differential methods of psychological experimentation.

107. Quantitative Methods in Psychology (3) I. Mr. Jacobs
Lecture, two hours; laboratory, two hours. Prerequisite: Psychology 5 or an equivalent course in statistics.
Application of statistical methods to the design and analysis of psychological investigations and to the interpretation of the quantitative data of psychology.

108. Physiological Psychology. (3) I, II. Mr. Reynolds
Lecture, three hours. Prerequisite: Biology 1A; Chemistry 40, 41, or consent of the instructor.
The physiological mechanisms in behavior.

108C. Physiological Psychology Laboratory. (1) I, II. Mr. Reynolds
Laboratory, three hours. Prerequisite: Psychology 108 (previous or concurrent).
Laboratory experiments in physiological psychology.

112. Child Psychology. (3) I, II. Mrs. MacGregor
Normal behavior and development of the infant and child: motor, mental, emotional, and social growth.

113. Psychology of Adolescence. (3) I or II. Mrs. MacGregor
The emotional, social, and intellectual growth of the adolescent, with special consideration of changing attitudes as the individual attains sexual maturation and adult physique.

126. Contemporary Psychology. (3) I or II. Mr. McClintock
Prerequisite: 6 upper division units in psychology. Primarily for senior majors in psychology.

130. Psychology of Learning. (3) I or II.
Mr. Cotton, Mr. Jacobs, Mr. Reynolds
Experimental and theoretical approaches to learning and motivation. The positions of Guthrie, Hebb, Hull, Skinner, Tolman, and others.

130C. Psychology of Learning Laboratory. (1) I, II. Mr. Cotton
Laboratory, three hours.
Prerequisite: Psychology 5, 11, and 130 (previous or concurrent).
Experimentation, analysis of data, and preparation of laboratory reports on topics in the psychology of learning.

131. Perception. (3) I, II. Mr. Gottsdanker
Lecture, three hours.
Prerequisite: Psychology 11, Biology 1A, Physics 20.
Direct utilization by the organism of the data provided by the different sensory modalities. Characteristics of the major modalities, interrelations among them, and general principles of perception.

131C. Perception Laboratory. (1) I, II. Mr. Gottsdanker
Laboratory, three hours.
Prerequisite: Psychology 5, Psychology 131 (previous or concurrent).
Laboratory experiments in human perception.

142. Experimental Social Psychology. (3) I, II. Mr. McClintock
Lecture, two hours; laboratory, four hours. Prerequisite: Psychology 145, or Sociology 153, or Sociology 161, or consent of instructor.
Methods, techniques, and typical experimental research in social psychology. Emphasis on the effects of small groups upon individual behavior.

145. Social Psychology. (3) I or II. Mr. McClintock
Theories of social psychological behavior with emphasis on contemporary concepts employed in the explanation of such behavior, for example, attitudes, roles, and interactions.

146. Differential Psychology. (3) I or II. The Staff
The study of data bearing on individual differences and of theories relating to their etiology.

148. Psychology of Personality. (3) I. Mrs. MacGregor
Cultural and biological determinants of personality development.

149. Biographical Psychology. (3) I or II. Mr. Altus
The consideration of certain significant biographies in relation to such factors as motivation, defense mechanisms, and physical and social environment.

160. Mental Deficiency. (3) I. Mrs. MacGregor
Mental defect and related abnormalities, primarily in the child; degrees of impairment, putative etiology; social, educational, and vocational problems deriving from such deviations.

162. Introduction to Clinical Psychology. (3) I. Mr. Altus, Mr. Braley
Lecture, two hours; field work, three hours.
Clinical problem types, with part of the semester devoted to interviewing and individually testing at the lower age levels.

163A. Clinical Measurements Techniques. (3) II. Mr. Altus, Mr. Braley
Lecture, two hours; field work, three hours. Prerequisite: Psychology 162 or consent of the instructor.
The techniques of individual intelligence testing, with special emphasis upon the adolescent and the adult.

163B. Clinical Measurements Techniques. (3) I. Mr. Altus, Mr. Braley
Lecture, two hours; field work, three hours. Prerequisite: Psychology 163A.
Theoretical considerations of projective tests in measuring the personality structure; an introduction to techniques of administering and scoring a projective test.

164. Clinical Psychology. (3) II. Mr. Altus, Mr. Braley
Lecture, two hours; field work, three hours. Prerequisite: Psychology 163B.
An integration of the techniques of measuring adjustment and intelligence in their application to the individual case.

168. Abnormal Psychology. (3) I or II. Mr. Altus, Mr. Braley
A study of those who deviate in terms of psychoneurosis, psychosis, and allied disorders. Symptoms entering into each of the syndromes; theories of causation of various types of mental disorder.

178. Psychology of Exceptional Children. (3) I or II. Mrs. MacGregor
Children with physical and emotional handicaps, and those of superior endowment.

199. Independent Studies in Psychology. (1–4) I, II. The Staff
By permission of the chairman of the department, advanced students may carry on study or research under guidance of a member of the department.

Graduate Courses

Full graduate status in psychology and consent of the instructor are prerequisite to all graduate offerings.

201. Proseminar in Psychology. (3) II. Mr. Cotton
An intensive consideration of major content areas and problems in psychology.

212. Developmental Psychology. (3) I or II. Mrs. MacGregor
Historical development of child psychology; dynamics of childhood; interaction of theory and practice of infant care.

222. Personality Dynamics. (3) I or II. ———
Dynamics of human behavior, as viewed by Freud, Jung, and more recent theorists.

228. The Conceptual Framework of Psychology. (3) I or II. Mr. Reynolds
Discussion of history and systems of psychology with special emphasis on the philosophy of science as applied to psychology. Metaphysical, epistemological, and methodological assumptions underlying the scientific study of behavior.

231. Perception. (3) II. Mr. Gottsdanker
The direct utilization of sensory information in judging, identifying, describing, moving, and manipulating.

255. Seminar in Social Psychology. (3) I. Mr. McClintock
Examination of major theoretical problems and research findings.

258. Seminar in Abnormal Psychology. (3) I or II. Mr. Altus

299. Research in Psychology. (1–4) I, II. The Staff

RELIGIOUS INSTITUTIONS

Committee in Charge

D. Mackenzie Brown, Ph.D., *Professor of Political Science* (*Chairman of the Committee*).
William F. Kennedy, Ph.D., *Professor of Economics.*
Cornelius H. Muller, Ph.D., *Professor of Botany.*
John E. Gillespie, Ph.D., *Associate Professor of Music.*

The College of Letters and Science offers a series of courses concerned with religion in Western culture and with the most significant world religions. These courses are primarily electives, but may be used to meet certain of the general education requirements of the College of Letters and Science.

Lower Division Courses

50. Introduction to Religion. (3) I, II. The Staff
Not open to freshmen.
An analytical survey of the historical development and cultural role of religious traditions and institutions.

Upper Division Courses

101. The Western Religious Heritage. (3) I. The Staff
The Judaic, Greek, and Christian ideas and institutions which constitute the religious traditions of Western civilization.

102. Contemporary Religious Movements. (3) II. The Staff
The doctrines and practices of religious organizations and movements in the United States.

151. Comparative Religion. (3) II. Mr. Brown
The origins, development, and doctrines of the major world religions.

194A–194B. Group Studies in Religious Institutions. (1–4) II. The Staff

Related Courses

In addition to the offerings in religious institutions, related courses are available in several departments. These include: Anthropology 124 (*Primitive Religion*); Art 107 (*Medieval Art*); East Asian Studies 187 (*East Asian Thought*); English 116 (*The English Bible as Literature*); History 157 (*Intellectual History of Great Britain*); Philosophy 112 (*Philosophy of Religion*); Sociology 162 (*Social Movements*); Psychology 145 (*Social Psychology*).

SOCIAL SCIENCES

Majors in the following fields of the social sciences are available: anthropology, economics, history, political science, and sociology. There is also an offering in geography. Students with interests in the individual fields are advised to study the separate descriptions in this bulletin and to consult the chairman of the appropriate department.

Economics, *Departmental Office,* C–2310
Geography, see Sociology-Anthropology
History, *Departmental Office,* C–1322
Political Science, *Departmental Office,* C–2310
Sociology-Anthropology, *Departmental Office,* C–2310
Credential Adviser, Mr. High, 429–102

Combination Social Sciences Major

Preparation for the Major

Three one-year sequences from the following list, including History 4A–4B, which is required. Thus, a total of 18 units in lower division is required in preparation for the major. The courses taken here in preparation for the combination social sciences major may also, in certain cases, be used in fulfillment of the general education program, as listed on pages 64 and 65 of this bulletin.

	Units
1. Anthropology 1–2. General Anthropology	3–3
2. Economics 1A–1B. Principles of Economics	3–3
3. History 4A–4B. History of Europe (required)	3–3
4. Philosophy 6A–6B. Introduction to Philosophy	
or	
Philosophy 20A–20B. History of Philosophy	3–3
5. Political Science 20. American Government and Politics	
and	
Political Science 50. Political Ideas and Institutions	3–3
6. Sociology 1. Introductory Sociology	
and	
Sociology 7. Social Disorganization	3–3

The Major

Required: 27 units of upper division work, including 15 units in the subject field of greatest emphasis, and 6 units in each of two other subject fields in the social sciences, as listed above. While philosophy is not classed as a social science, it does qualify as one of the areas of emphasis in the combination social sciences major.

This major is not recommended for students who expect to work for a master's degree or for a doctorate, but it can be an excellent foundation for work leading to the general secondary teaching credential with a major in the *social studies.*

The Credential Program

Majors and Minors for Teaching Credentials

Students wishing to complete majors or minors in the social sciences for the purpose of securing teaching credentials may consult the credential adviser, Mr. High.

The General Secondary Credential, Teaching Major. Any of the majors in subject fields in the social sciences may serve as the basis for a *social studies*

major for the purpose of obtaining a general secondary teaching credential. The *social studies* teaching major must contain a minimum of 36 units selected from anthropology, economics, social geography, history, political science, and sociology. It must include at least one course in United States history, and at least one course in each of three of the other fields mentioned.

For list of required education courses, see page 110.

The General Secondary Credential, Teaching Minor. The minor for this credential must include at least 20 units selected from anthropology, economics, social geography, history, political science, and sociology, distributed as follows: 12 units in one specific subject field, including at least 3 upper division units; and at least 6 additional upper division units in the same field or in one of the other fields listed in the first sentence of this paragraph.

Junior High Credential, Teaching Major. This credential may be obtained by completing a major in a subject field in the social sciences, a minor in a subject field outside the social sciences, and courses in education required for the credential.

Junior High Credential, Teaching Minor. The minor for the credential requires at least 18 units (including 6 upper division units) selected from anthropology, economics, social geography, history, political science, and sociology, distributed as follows: 12 units in one specific subject field, including at least 3 upper division units; and at least 6 additional units in the same field or in any of the other fields listed in the first sentence of this paragraph.

SOCIOLOGY-ANTHROPOLOGY

Charles B. Spaulding, Ph.D., *Professor of Sociology.*
Robert H. Billigmeier, Ph.D., *Assistant Professor of Sociology.*
K. Peter Etzkorn, Ph.D., *Assistant Professor of Sociology.*
James H. High, Ph.D., *Assistant Professor of Social Sciences.*
Clovis R. Shepherd, Ph.D., *Assistant Professor of Sociology.*
James J. F. Deetz, Ph.D., *Instructor in Anthropology.*
Roger C. Owen, M.A., *Instructor in Anthropology.*

The Major in Anthropology

Anthropology is the study of man in the broadest sense. It concerns itself with the biological, cultural, and historical aspects of mankind. The aim of the anthropology major is threefold: (1) to prepare for graduate school students desiring to work professionally in anthropology, (2) to prepare students for careers either in secondary education or in social service work not requiring graduate study, and (3) to provide a background in behavioral studies for students desiring a broad education in either the biological or the social sciences.

Requirements for the Major

Two major emphases are recognized by the department: cultural anthropology and physical anthropology. (See below.) All majors expecting to go to graduate school will take comprehensive examinations in the final semester of the senior year.

A. Cultural Emphasis

Preparation for the Major

Required Courses:

	Units
1. Anthropology 1 and 2. General Anthropology	3–3
Anthropology 3. The Prehistory of Man	3
2. Sociology 1. Introductory Sociology	3
3. Zoology 1A (or Biology 1A). General Zoology	4
Zoology 1B. Chordate Zoology	4
4. Geology 2. Concepts of Geology	3

Recommended selections:

Spanish; Art 4; Botany 3; Psychology 11, 5, 33; Economics; Geography; History.

The Major (24 units of upper division anthropology plus 6 units of sociology)

Required Courses:

Anthropology 102. World Ethnology
Anthropology 105. American Indians North of Mexico
Anthropology 125. Comparative Society
Anthropology 150. Physical Anthropology
Anthropology 162. History of Anthropological Theory
Anthropology 189. Advanced Anthropology
Sociology 154. Society and Personality
Sociology — One additional course to be selected from the following: 7, *or* 106, *or* 162, *or* 130, *or* 187.

Suggested electives: English 110, Biology 130, Art 104, Economics, Psychology.

B. Physical Emphasis

Preparation for the Major

Required Courses:	*Units*
1. Anthropology 1 and 2. General Anthropology	3–3
Anthropology 3. The Prehistory of Man	3
2. Sociology 1. Introductory Sociology	3
3. Biology 1A (or Zoology 1A). Fundamentals of Biology	4
Biology 1B. Concepts of Biology	3
4. Zoology 25. Human Anatomy	3
Zoology 40. Human Physiology	3

Recommended selections from General Education Program I: French or German, mathematics, geography, History 17A–17B.

The Major (A total of 30 units of upper division work)

18 units of upper division anthropology
9 units of biology and zoology
3 units of sociology

Required Courses:

Anthropology 102. World Ethnology
Anthropology 125. Comparative Society
Anthropology 150. Physical Anthropology
Anthropology 162. History of Anthropological Theory
Anthropology 197. Field Training in Archaeology
Anthropology Elective
Biology 130. Genetics
Biology 131. Evolution
Zoology 140. Animal Ecology
Sociology 154. Society and Personality

Recommended electives: Sociology, history, mathematics, biological science.

Recommended sequence for the minor in anthropology

Anthropology 1, 2, 3, 102, 150, 197, and *either* 125, *or* 162, *or* 165.

Teaching Credentials, Teaching Majors, Teaching Minors

Anthropology is acceptable as a major portion of a program leading to a teaching credential in the *social studies.* See listing following description of the major in sociology.

The Major in Sociology

The sociology major emphasizes social relations, social organization, groups, and interpersonal relations. Its broad perspective on society and basic institutions provides an excellent major for the student interested in liberal education. Specialized courses provide valuable background for work in public relations, industrial relations, social work, probation, and other fields in business, government, and social welfare. The major prepares students for graduate work in preparation for professional careers in sociology (teaching and research), and for admission to graduate studies in fields where a sociology background is desirable.

Preparation for the Major

Required Courses:	*Units*
1. Sociology 1. Introduction to Sociology	3
Sociology 7. Social Disorganization	3
2. Anthropology 2. General Anthropology	3

	Units
3. *One* year sequence (6 units) to be chosen from:	
a. Economics 1A–1B. Principles of Economics	3–3
b. History 4A–4B. History of Europe	3–3
c. Political Science 20. American Government and Politics, *and* Political Science 50. Political Ideas and Institutions	3–3
d. Psychology 11–12. General Psychology	3–3

The Major

Required: 24 units of upper division sociology courses. In certain cases the major adviser may approve a maximum of 6 units of upper division anthropology courses as part of the required total of 24 units. Students intending to engage in graduate study should take Sociology 107 or an equivalent course.

Teaching Credentials, Teaching Majors, Teaching Minors

Anthropology and sociology are each acceptable as a major portion of a program leading to a teaching credential in the *social studies.*

The manner in which the various teaching credentials may be obtained is governed by rules laid down by the California State Board of Education. Requirements for majors and minors in the *social studies* for general secondary and junior high school teaching credentials are listed on pages 200 and 201 of this bulletin, under the heading of *Social Sciences.*

Combination Social Sciences Major

Students interested in obtaining a major in the combined social sciences, see listing under *Social Sciences,* page 200 of this bulletin.

Anthropology

Lower Division Courses

1. General Anthropology. (3) I.

Physical anthropology; origin and antiquity of man; living races of mankind; origin and development of early cultures in the Old and New Worlds.

2. General Anthropology. (3) I, II. Mr. Deetz, Mr. Owen

The nature of culture: a survey of the range of cultural phenomena, including material culture, social organization, religion and other topics.

3. The Prehistory of Man. (3) II. Mr. Deetz

Human culture from man's emergence as a culture-bearing animal to the beginning of written history in all parts of the world.

Upper Division Courses

102. World Ethnology. (3) I. Mr. Deetz

A survey of representative primitive cultures of the world; comparative materials from modern culture; relationship of environment and culture.

105. American Indians North of Mexico. (3) I. Mr. Deetz

Prerequisite: not to be taken by students who have completed Anthropology 101B.

The origins, development, and attainments of Indian cultures north of Mexico.

107. American Indians of Middle and South America. (3) II. Mr. Owen

Prerequisite: not to be taken by students who have credit for Anthropology 101B.

The origins, development, and attainments of Indian cultures of Mexico, Central and South America.

124. Primitive Religion. (3) II. ———
Religious beliefs and practices among preliterate societies; the role of religion in society.

125. Comparative Society. (3) I. Mr. Owen
Prerequisite: Anthropology 2 or consent of instructor.
Comparative study of the structure, development, and function of human society; social, religious, political, and economic institutions.

139. Peoples and Cultures of Africa and Asia. (3) II. ———
Prerequisite: not to be taken by students who have credit for Anthropology 101A.
The aboriginal cultures and races of Africa and Asia, past and present.

147. Peoples and Cultures of the Pacific. (3) I. ———
Prerequisite: not to be taken by students who have credit for Anthropology 101A.
The aboriginal cultures of Australia, Malaysia, Melanesia, Polynesia, and Micronesia.

150. Physical Anthropology. (3) I, II. ———
Prerequisite: Anthropology 1 or consent of the instructor.
A general survey of human osteology and somatology in terms of evolutionary, racial, sexual, and age variations.

162. History of Anthropological Theory. (3) I. Mr. Owen
Prerequisite: Anthropology 2, 125, or consent of the instructor.
The history of the development of anthropology as a scientific discipline; a survey of anthropological schools of thought and theory.

165. Cultural Dynamics and Applied Anthropology. (3) II. Mr. Deetz
Prerequisite: Anthropology 2.
The processes of culture; influences of Western civilization on primitive cultures; applications of anthropology to modern social problems.

189. Advanced Anthropology. (3–5) II. The Staff
Prerequisite: senior standing in anthropology or sociology.
This is an advanced survey of anthropology which will vary in its orientation with the interests of the enrolled students. It is intended for anthropology majors and as a preparation for beginning graduate work.

195. Introduction to Archaeology. (3) II. Mr. Deetz
Prerequisite: Anthropology 1 or 2. Limited to 20 students.
Important archaeological discoveries throughout the world; methods and techniques of modern archaeology; archaeology as a natural and a social science.

197. Advanced Field Training in Archaeology. (4–6) Summers. Mr. Deetz
Prerequisite: Anthropology 195 and consent of instructor.
The technique of archaeological field methods. Involves the mapping and excavation of an archaeological site; processing and preparation of archaeological specimens, photography, recording and cataloguing of artifacts.

199. Independent Studies in Anthropology. (1–4) I, II. The Staff
Prerequisite: admission by permission only.

Geography

Lower Division Courses

1A. Physical Principles of Geography. (3) I, II. ———
The physical elements of geography including climate, land forms, soils and natural vegetation, and their world distribution by regions.

1B. Cultural Elements of Geography. (3) I, II. ———
The essential elements of cultural geography, including population distribution, land-use patterns, trade, and man's general adaptation to the environment of the world.

Sociology

Lower Division Courses

1. Introductory Sociology. (3) I, II. Mr. Etzkorn, Mr. Shepherd
The nature of human society and of its scientific study, cultural variation, social evolution, personality development, collective behavior, social institutions, ecology, and population.

7. Social Disorganization. (3) I, II. Mr. Billigmeier
Prerequisite: Sociology 1 or consent of the instructor.
Social "organization" and "disorganization." Behavior symptomatic of societal disorganization such as family disorganization, crime and delinquency, suicide, alcoholism, and intra-societal conflict.

Upper Division Courses

Prerequisite to upper division courses: Sociology 1, or Sociology 101, or consent of the instructor.

101. General Sociology. (3) II. Mr. Shepherd
The major concepts, principles, and problems of sociology. Not open to those who have had Sociology 1. May serve as prerequisite for upper division courses.

106. Methodology. (3) I. Mr. Shepherd
Research skills and the roles of theory, design, data collection, and analysis introduced through library and field studies conducted by class members. Emphasis on research techniques.

120. Marriage and the Family. (3) I, II. Mr. Spaulding
The human family, past and present; adjustment in the contemporary American family.

130. Social Change. (3) I. Mr. Etzkorn
Theories of social change and of the evolution of social systems.

131. Urban Society. (3) II. Mr. Etzkorn
The social systems of modern urban society.

135. Principles of Social Welfare. (3) II. Mr. Billigmeier
Basic concepts and methods of social work; the application of case work techniques; structure and function of public welfare agencies; social group work and community organization.

142. Social Class. (3) II. ———
The nature of social classes and class relations, emphasizing contemporary studies of American society.

153. Public Opinion and Social Attitudes. (3) II. Mr. Shepherd
Prerequisite: Sociology 1, Psychology 11, or consent of the instructor.
The measurement of attitude and opinion; the determination of attitude; opinion change, propaganda, and the media of opinion formation.

154. Society and Personality. (3) II. Mr. Shepherd
The interaction of social structure and personality; social control, and deviant behavior.

160. Industrial Sociology. (3) I. Mr. Spaulding
The position of workers in American society; factors correlated with occupation, access to the job, formal and informal groups and organizations affecting workers.

161. Group Analysis. (3) I. Mr. Shepherd
The structure and dynamics of small groups, including the analysis of roles, interpersonal relations, and group characteristics; intergroup relations; field and laboratory research on small groups.

162. Social Movements. (3) I. Mr. Billigmeier
Developmental processes of movements seeking alterations in the social order; a comparative analysis of utopias, classical and contemporary liberalism, socialism, and communism.

170. Sociology of the Arts. (3) I. Mr. Etzkorn
The relationships of artists, art traditions, and art forms to variant social structures and institutions.

182. Criminology. (3) I. ———
Theories of crime and punishment in contemporary society and in historical perspective.

185. Population. (3) I. Mr. Billigmeier
Population composition and change; differential fertility and mortality of sociocultural groups; internal and international migration; population theory and national policies; problems in areas of population pressure.

186. Development of Sociological Theory. (3) I. ———
The history of sociological thought, with particular reference to the classic works of the outstanding American and European figures in sociology through the 1920's.

187. Contemporary Sociological Theory. (3) II. ———
A study of the major theoretical issues in current sociology. Material will be drawn from the major recent authorities. (A continuation of Sociology 186, but may be taken separately.)

189. Minority Group Relations. (3) II. Mr. Billigmeier
Consequences of racial and ethnic contacts, with particular emphasis upon minorities in the United States.

198. Readings in Sociology. (1–3) I, II. The Staff

199. Independent Studies in Sociology. (1–4) I, II. The Staff
Reading and conferences for sociology majors of high scholastic standing.

Related Courses in Another Department

Education SS 190. Teaching Procedures in Social Studies. (2) I, II.
Mr. High

Education SS 192A–192B. Student Teaching: Social Studies. (2–2) I, II.
Mr. High

SPANISH LANGUAGE AND LITERATURE

Samuel A. Wofsy, Ph.D., *Professor of Spanish.*
Eda Ramelli, Doctora en Letras, *Professor of Spanish, Emeritus.*
Pablo Avila, Ph.D., *Associate Professor of Spanish.*
David Bary, Ph.D., *Assistant Professor of Spanish.*
Winston A. Reynolds, Ph.D., *Assistant Professor of Spanish.*
*John F. Tull, Jr., Ph.D., *Assistant Professor of Spanish.*
Theodore I. Murguía, Ph.D., *Instructor in Spanish.*
Andres R. Ramón, LL.M., *Lecturer in Spanish.*

The Major in Spanish:

Preparation for the Major. Courses 1, 2, 3, or four years of high school Spanish, and course 4, or other equivalent to be tested by examination. If course 4 is passed with a grade lower than B, the student must complete courses 25A–25B as prerequisite to upper division courses.

Students who wish to make Spanish their major subject must have maintained an average grade of at least C in the college courses in Spanish taken prior to their junior year. Students transferring from other institutions may be tested by examination.

Students whose native language is Spanish will not be permitted to enroll in any Spanish course lower than course 25A–25B.

All upper division courses are given in Spanish.

The Major. Required: 24 upper division units.	*Units*
Spanish 101A–101B. Conversation and Composition ..... (May be omitted if 25A–25B (3–3) has been passed with a grade of A or B.)	3–3
Spanish 109A–109B. A Survey of Spanish Literature.....	3–3
The remaining units may be completed from courses:	
Spanish 103A–103B. Phonetics	1–1
Spanish 105A–105B. Eighteenth- and Nineteenth-Century Literature	3–3
Spanish 107A–107B. Spanish-American Literature	3–3
Spanish 110A–110B. Contemporary Spanish Literature....	2–2
Spanish 111A–111B. The Golden Age of Spain	3–3
Spanish 116A–116B. Advanced Grammar and Composition	3–3
Spanish 125A–125B. Hispanic Institutions and Culture....	3–3

The Minor in Spanish

A minimum of 20 units in Spanish is required; of these, 9 units must be in the upper division, which must include Spanish 101A–101B (3–3).

The General Secondary Credential, Teaching Major. The teaching major includes Spanish 103A–103B, Phonetics (1–1), Spanish 116A–116B, Advanced Grammar and Composition (3–3), Spanish 125A–125B, Hispanic Institutions and Culture (3–3), among the requirements for the major specified above.

Courses required in the Department of Education are listed on page 110.

Lower Division Courses

In courses 1, 2, 3, and 4, sections meet five hours weekly.

1. Elementary Spanish. Beginners' Course. (4) I, II. The Staff

2. Elementary Spanish (continuation of 1). (4) I, II. The Staff

* Absent on leave, fall, 1961.

3. Intermediate Spanish. (4) I, II. The Staff

4. Intermediate Spanish (continuation of 3). (4) I, II. The Staff

8A. Spanish Conversation. (1) I. The Staff
Two one-hour meetings. Prerequisite: Spanish 2.

8B. Spanish Conversation (continuation of 8A). (1) II. The Staff

25A–25B. Advanced Spanish. (3) Yr. Mr. Bary, Mr. Wofsy
Prerequisite: Spanish 4 or the equivalent.

Upper Division Courses

101A–101B. Conversation and Composition. (3–3) Yr. Mr. Avila, Mr. Tull

103A–103B. Phonetics. (1–1) Yr. Mr. Avila

105A–105B. Eighteenth- and Nineteenth-Century Literature. (3–3) Yr. Mr. Reynolds, Mr. Wofsy

107A–107B. Spanish-American Literature. (3–3) Yr. Mr. Avila, Mr. Bary

109A–109B. A Survey of Spanish Literature. (3–3) Yr. Mr. Reynolds, Mr. Tull

110A–110B. Contemporary Spanish Literature. (2–2) Yr. Mr. Bary, Mr. Tull

111A–111B. The Golden Age of Spain. (3–3) Yr. Mr. Reynolds, Mr. Wofsy
Prerequisite: Spanish 109A–109B.
Spanish literature 1550–1680.

116A–116B. Advanced Grammar and Composition (3–3) Yr. The Staff

118A–B–C–D–E. Individual Hispanic Authors. (2–2–2–2–2) I, II. The Staff
Intensive reading and discussion of the works of such authors as Cervantes, Lope de Vega, Quevedo, Calderon, Perez Galdos, Ruben, Dario, Unamuno, Ortega y Gasset, Garcia Lorca, and Pablo Neruda. Authors to be chosen according to the interests of students and faculty.

125A–125B. Hispanic Institutions and Culture. (3–3) Yr. The Staff

199. Independent Studies in Spanish. (1–4) I, II. The Staff
Individual investigations in literary fields.

Spanish Literatures in English Translation

(Courses for which no knowledge of Spanish is required)

Spanish 115A. Masterpieces of Spanish Literature. (3) I, II. Mr. Wofsy
Readings in English translation and discussion of representative works from the Middle Ages to the end of the sixteenth century.

Spanish 115B. Masterpieces of Spanish Literature. (3) I, II. Mr. Tull
Readings in English translation and discussion of representative works from the seventeenth century to the end of the nineteenth.

Related Courses in Other Departments

Education SF 190. Procedures in Teaching French in Secondary Schools. (2) I, II. Mr. Beachboard

Education SN 190. Procedures in Teaching Spanish in Secondary Schools. (2) I, II. Mr. Avila, Mr. Murguía

Education SN 192A–192B. Student Teaching: Spanish. (2–2) I, II. Mr. Avila, Mr. Murguía

Philosophy 133. Philosophy of Language. (3) I. Mr. Wilkinson

Philosophy 146. Philosophy in Literature. (3) II. Mr. Sesonske

Hispanic Civilization.
See page 135.

SPEECH AND DRAMA

Theodore W. Hatlen, Ph.D., *Professor of Speech and Drama.*
John C. Snidecor, Ph.D., *Professor of Speech and Drama.*
Upton S. Palmer, Ph.D., *Associate Professor of Speech and Drama (Chairman of the Department).*
*Edwin R. Schoell, Ph.D., *Associate Professor of Speech and Drama.*
Stanley L. Glenn, Ph.D., *Assistant Professor of Speech and Drama.*
Gary N. Hess, Ph.D., *Assistant Professor of Speech and Drama.*
Alan C. Nichols, Ph.D., *Assistant Professor of Speech and Drama.*
Rollin W. Quimby, Ph.D., *Assistant Professor of Speech and Drama.*
Forbes I. Hill, M.A., *Acting Assistant Professor of Speech and Drama.*
Gerald M. Lanning, M.S., *Associate in Speech and Drama.*

Majors in the Department of Speech and Drama are based on a varied program of course offerings. The major in rhetoric and public speaking gives greater emphasis to general education outside the field of speech than does the speech major which emphasizes somewhat greater specialization through the selection of electives. Both majors prepare for the general secondary credential. The drama major provides a well-balanced program which may serve as an area of concentration for a liberal arts education or as background for later professional work in the theater.

All majors offered lead to graduate work.

Preparation for the Majors. Students should have passed Subject A (either examination or course) before taking Speech 20. By special arrangement, students may take Subject A and Speech 20 concurrently. Students who elect a major in the department after the freshman year may, with the approval of the chairman, substitute Speech 11 for Speech 20. English 1A and 1B may be taken concurrently with lower division work in speech or drama.

Requirements for Majors. Students must present, by the first half of the junior year, a program to be approved by the department chairman. This program may be amended from time to time but only after consultation with the chairman. In addition to normal academic requirements, speech majors are required to participate for at least two semesters at the University of California, Santa Barbara, in each of two areas of performance. Majors in rhetoric and public speaking are expected to participate in performance activities in the areas of debate and public speaking.

Speech Major. Students in this major must meet the General Education requirements of *Program II,* as outlined on pages 65 and 66 of this catalogue. The program must include 40 units in speech, 19 units of which must be upper division courses.

Lower Division	*Units*
History 4A–4B. History of Europe	6
Speech 20. Introduction to Speech	3
Speech 42. Oral Reading	3
Speech 46. Voice and Articulation Improvement	3
Speech 58. Argumentation, Discussion, and Debate	3
Speech 30. Fundamentals of Acting	
or	
Speech 40. Radio and Television Broadcasting	

* Absent on sabbatical leave, fall semester, 1961.

or
Speech 52. Debate
or
Speech 70. Stagecraft 6

Upper Division	*Units*
Philosophy or Economics	6
English 117E or 117A. Shakespeare	3
English, upper division elective	3
*General electives	24
Speech 131. Advanced Public Speaking	3
Speech 135. Theory of Directing	3
Speech 140. Radio Broadcasting *or* Speech 155. Play Production	3
Speech 150. Phonetics	3
Speech 172. Speech Correction	3
Speech 198A–198B. Comprehensive Final Examination	2–2
Speech elective	3

Speech and Hearing Major. Students in this major must meet the General Education requirements of *Program II,* as outlined on pages 65 and 66 of this catalogue. Majors preparing for teacher certification or planning graduate work in speech correction should select the speech and hearing emphasis in preference to the general speech major.

Lower Division	*Units*
History 4A–4B. History of Europe	6
Speech 11. Fundamentals of Speech *or* Speech 20. Introduction to Speech	3
Speech 30. Fundamentals of Acting *or* Speech 45. The Understanding of Drama *or* †Speech 160A. Development of Dramatic Art *or* Speech 160B. Development of Dramatic Art	3
Speech 31. Public Speaking *or* Speech 58. Argumentation, Discussion, and Debate *or* Speech 131. Advanced Public Speaking	3
Speech 42. Oral Reading *or* Speech 142. Advanced Oral Reading	3

Upper Division	
Speech 150. Phonetics	3
Speech 172. Speech Correction	3
Speech 173. Advanced Speech Correction	2
Speech 174. Lip Reading	2
Speech 175. Audiometry; Aural Rehabilitation	2
Speech 177A–177B. Clinical Methods and Clinical Practices	4
Speech 198A. Comprehensive Final Examination	2

* Selected with the approval of department chairman.
† Upper division alternate courses are primarily for students who transfer into the major and are to be taken while in upper division status.

	Units
Psychology 178. Psychology of Exceptional Children	3
Psychology elective (upper division)	3
Psychology elective (upper division)	
or	
Speech 199. Independent Studies in Speech	3

Rhetoric and Public Speaking Major. Students in this major must meet the requirements of General Education *Program I,* as outlined on pages 64 and 65 of this catalogue.

Lower Division	*Units*
Philosophy 31. Deductive Logic	3
Sociology 7. Social Disorganization	
or	
†Sociology 130. Social Change	
or	
Sociology 131. Urban Society	
or	
Sociology 162. Social Movements	3
Speech 20. Introduction to Speech	3
Speech 30. Fundamentals of Acting	3
Speech 42. Oral Reading	3
Speech 45. The Understanding of Drama	
or	
Speech 160A. Development of Dramatic Art	
or	
Speech 160B. Development of Dramatic Art	3
Speech 52. Debate	
or	
Speech 58. Argumentation, Discussion, and Debate	3
Upper Division	
Economics 109. Introduction to Economics	3
English 117A. Shakespeare	3
Psychology 145. Social Psychology	3
Speech 130. History of Rhetoric and Public Address	3
Speech 131. Advanced Public Speaking	3
Speech 150. Phonetics	
or	
Speech 172. Speech Correction	3
Speech 157. Intercollegiate Debate	2
Speech 198B. Comprehensive Final Examination	2
Speech electives	5

Drama Major. Students in this major must meet the requirements of General Education *Program I,* as outlined on pages 64 and 65 of this catalogue. Drama majors are also required: (1) to develop performance ability; (2) to participate in student productions; and (3) to engage in at least one Department of Speech and Drama activity each semester. Transfer students are required to complete at least three semesters in the Department of Speech and Drama.

Lower Division	*Units*
Art 31. Design and Color	2
History 4A–4B. History of Europe	6
Physical Education (including dance and fencing)	2

† Upper division alternate courses are primarily for students who transfer into the major and are to be taken while in upper division status.

	Units
Speech 20. Introduction to Speech	3
Speech 30. Fundamentals of Acting	3
Speech 42. Oral Reading	3
or	
Speech 142. Advanced Oral Reading	3
Speech 45. The Understanding of Drama	3
Speech 46. Voice and Articulation Improvement	
or	
Speech 150. Phonetics	3
Speech 70. Stagecraft	3
Upper Division	
Art 118. History of Costume	2
English 161. Drama of the English Renaissance	
or	
English 169. Restoration and Eighteenth-Century Drama	3
English 120. Modern Drama	
or	
Speech 160C. Development of Dramatic Art	3
Speech 135. Theory of Directing	
or	
Speech 155. Play Production	3
Speech 152. Playwriting	
or	
Speech 154. Dramatic Theory and Criticism	3
Speech 159A–B–C–D. Theater Workshop	2
Speech 160A–160B. Development of Dramatic Art	6
Speech 198B. Comprehensive Final Examination	2
Speech elective	3

Requirements for the Minor. Minors in speech and drama consist of 18–20 units: 9 lower division (of which 3 must be in Speech 20), and 9 upper division. The remaining units are selected by the student subject to the approval of the department chairman. Ordinarily the student specializes in either drama or one of the speech areas.

Demonstration of Knowledge and Skills. Major students must maintain an average grade of C or higher in upper division speech and drama courses. Students in Speech 198 must pass written and oral examinations based upon a review of their work in speech and drama. During the same year they must publicly demonstrate skill in speech and reading performance.

CREDENTIAL PROGRAMS

The General Secondary Credential, Teaching Major

The general secondary credential student must have a major of 37–39 units, 18 of which must be upper division courses.

1. All credential candidates take:

	Units
Speech 20. Introduction to Speech	3
Speech 46. Voice and Articulation Improvement	
or	
Speech 150. Phonetics	3
Speech 52. Debate	3

2. Two of the following courses are selected with the approval of the department chairman:

Speech 58. Argumentation, Discussion, and Debate	3
Speech 157. Intercollegiate Debate	2
Speech 158. Argumentation and Public Discussion	3

3. Five of the following courses are selected with the approval of the department chairman:

	Units
Speech 30. Fundamentals of Acting	3
Speech 70. Stagecraft	3
Speech 135. Theory of Directing	3
Speech 155. Play Production	3
Speech 159A–B–C–D. Theater Workshop	2
Speech 160A or 160B. Development of Dramatic Art	3

4. Three of the following courses are selected with the approval of the department chairman:

Speech 42. Oral Reading	
or	
Speech 142. Advanced Oral Reading	3
Speech 40. Radio and Television Broadcasting	
or	
Speech 140. Radio Broadcasting	3
Speech 172. Speech Correction	3

5. During the fifth year the credential candidate will take Speech 198A and 198B, Comprehensive Final Examination; Speech 200, Introduction to Graduate Study in Speech (2 units).
6. A minor in the humanities, social sciences, natural sciences, or fine arts is required for an applied major in speech.
7. For required education courses, see page 110.

The General Secondary Credential, Teaching Minor

For information concerning a teaching minor for the general secondary credential, confer with the department chairman. Such a minor will usually be arranged in only one area, either public speaking or drama.

Credential to Teach Exceptional Children (Speech Correction)

The Department of Speech and Drama offers the credential to teach exceptional children as a supplement to the kindergarten-primary, general elementary, junior high, or general secondary credentials. The credential to teach exceptional children authorizes the holder to teach in the specialized area of speech correction in the public schools in California. The credential is invalid unless supplemented by one of the four basic credentials.

1. In the Department of Education:

	Units
126. Principles of Parent Counseling	
or	
117. Pupil Personnel and Counseling	2

2. In the Department of Psychology:

178. Psychology of Exceptional Children	3

3. In the Department of Speech:

150. Phonetics	3
172. Speech Correction	3
173. Advanced Speech Correction	2
174. Lip Reading	2
175. Audiometry; Aural Rehabilitation	2
177A–177B. Clinical Methods and Clinical Practice	4
192B. Directed Teaching	4

Lower Division Courses

11. Fundamentals of Speech. (3) I, II. The Staff
Prerequisite to all other speech courses for most nonmajors.
Participation in public speaking, oral reading, and discussion.

20. Introduction to Speech (3) I. Mr. Palmer
For majors only.
Orientation to the field of speech.

30. Fundamentals of Acting. (3) I, II. Mr. Glenn
Provides the beginning actor with the basic approaches to the art of acting. Practical application of these approaches through improvisations, scenes from plays, pantomimes, and voice and body exercises.

31. Public Speaking. (3) I. Mr. Palmer
Practice in preparing various types of speeches and participation in public discussion.

40. Radio and Television Broadcasting. (3) I. Mr. Hess
Laboratory sessions.
Nature of the medium, its history, legal methods of control, significance in modern society, standards applicable to various program types.

42. Oral Reading. (3) I, II. Mr. Hess
Technique of reading various types of literature.

45. The Understanding of Drama. (3) I, II. Mr. Hatlen
The general nature of dramatic presentation, including elements of dramatic structure, types of drama, and the contributions of the actor, director, designer, technician, and audience.

46. Voice and Articulation Improvement. (3) II. Mr. Nichols
Open, with consent of the instructor, to students who have not had Speech 11. Credential requirement.
Bases of correct sound formation and standards of voice and pronunciation. Practical individual training.

52. Debate. (3) I. Mr. Hill
Intensive drill in debate techniques. Class members will participate in intercollegiate forensic activities.

58. Argumentation, Discussion, and Debate. (3) II. Mr. Hill
Forms of argument, analysis, and evidence. Discussion projects.

70. Stagecraft. (3) I, II. Mr. Lanning
The physical theater and design, construction, painting, and lighting of stage settings. Practical experience afforded in set construction and backstage duties in connection with university dramatic productions.

Upper Division Courses

117. General Semantics. (3) II. Mr. Snidecor
The meaning of language as it relates to human behavior.

130. History of Rhetoric and Public Address. (3) II. Mr. Palmer
Constituents of the rhetoric of Plato and Aristotle, Cicero, Quintilian, Bacon, Blair, Campbell, Whately, and modern rhetoricians; evaluation of great speeches of history.

131. Advanced Public Speaking. (3) II. Mr. Quimby
Prerequisite: Speech 11 or 31.
Speech composition, audience analysis, and persuasion.

135. Theory of Directing. (3) II. Mr. Glenn, Mr. Hatlen
Studies in analysis of dramatic materials and techniques of directorial restatement in theatrical terms.

140. Radio Broadcasting. (3) II. Mr. Hess
Theories of production; practice in producing recorded programs.

142. Advanced Oral Reading. (3) II. Mr. Hess
Prerequisite: Speech 42.
Individual projects.

150. Phonetics. (3) I. Mr. Schoell
Prerequisite: Speech 11. Credential requirement.
The application of the International Phonetic Alphabet, with especial reference to American speech sounds. Ability to analyze and describe normal and deviate acoustic patterns.

151. Advanced Acting. (3) I. Mr. Glenn
Prerequisite: Speech 30.

152. Playwriting. (3) II. Mr. Hatlen
Dramatic technique and structure; composition of original plays.

154. Dramatic Theory and Criticism. (3) II. Mr. Glenn

155. Play Production. (3) I. Mr. Glenn
Designed to acquaint the student with the theoretical and practical processes of play production.

157. Intercollegiate Debate. (2) I, II. Mr. Hill
May be repeated for a maximum of 6 units. A total of no more than 8 units of credit may be received in any combination of Speech 52, 58, and 157.
Participation in intercollegiate debate.

158. Argumentation and Public Discussion. (3) II. Mr. Palmer
Emphasis on public performance. Participation in intercollegiate forensics.

159A–B–C–D. Theater Workshop. (1–1–1–1) I, II. Mr. Hatlen
Projects in acting, stagecraft, and directing. A student may enroll for 1 or 2 units, and may repeat the course for a total of 4 units.

160A. Development of Dramatic Art. (3) I. Mr. Hatlen
The physical stage, technical structure of drama, types and forms of drama from the origin in Greece to the Renaissance.

160B. Development of Dramatic Art. (3) II. Mr. Glenn
The history of drama and theater from the Renaissance to Ibsen.

160C. Development of Dramatic Art. (3) II. Mr. Hatlen
A study of Ibsen and subsequent dramatists. English, Continental, and American.

162. The Art of the Film. (2) II. Mr. Schoell
Cultural, historical and esthetic aspects of the film, combining lectures, papers, and showing of significant films.

172. Speech Correction. (3) I. Mr. Snidecor
Prerequisite: Speech 11, 150. Credential requirement.
Remedial procedures for the development of normal speech in the preschool and school-age children.

173. Advanced Speech Correction. (2) II. Mr. Snidecor
Prerequisite: Speech 11, 150, 172. Credential requirement.
Study of the etiology and treatment of the more severe speech deviations, such as stuttering, cleft-palate, voice disorders, aphasia, and cerebral palsy.

174. Lip Reading. (2) II. Mr. Nichols
Prerequisite: consent of the instructor. Credential requirement.
Evaluation of methods of teaching lip reading; development of and practice in presenting foundation exercises. Preparation and presentation of lessons for the various grade levels.

***175. Audiometry; Aural Rehabilitation.** (2) II. Mr. Nichols
Prerequisite: consent of the instructor. Credential requirement.
The nature of hearing and hearing loss; the measurement and interpretation of reduced hearing acuity. Programs in hearing conservation, including auditory training and hearing aids.

****177A–177B. Clinical Methods and Clinical Practice.** (2–2) I, II. Mr. Nichols
Prerequisite: Speech 11, 150, 172. Credential requirement.
Observation of and practice with children who present various types of speech and hearing problems. Speech therapy related to physiological and psychological factors. Laboratory required.

198A–B–C–D. Comprehensive Final Examination. (1–1–1–1) I, II. The Staff
Integrates the various fields of speech through directed reading and review.
Terminates in comprehensive oral and written examinations. Demonstration of performance in speaking and reading.

199. Independent Studies in Speech. (1–4) I, II. The Staff

Graduate Courses

200. Introduction to Graduate Study in Speech. (2) I. The Staff
Open, with the permission of the department chairman, to qualified students who have completed the Bachelor of Arts degree.
Designed to acquaint the student with the procedures and disciplines essential for pursuing graduate work in the various areas of speech.

299. Special Studies Research. (2–4) I, II. The Staff

Related Courses in Other Departments

Classics 150B. Greek and Latin Literature in Translation. (3–3) I, II.
(See page 98.)

Education Sp. 190. Speech Activities and Methods for Teachers. (2) II. Mr. Schoell

Education Sp. 192A. Student Teaching: Speech (2–4) I, II. Mr. Schoell

Education Sp. 192B. Student Teaching: Speech Correction. (2–4) I, II. Mr. Schoell

* Not to be offered, 1961–1962.
** Speech 177A is offered during the spring (II) semester and 177B in the fall (I) semester for 1961–1962.

TUTORIAL PROGRAM

Committee in Charge

Gordon E. Baker, Ph.D., *Associate Professor of Political Science (Chairman of the Committee).*
Herbert Fingarette, Ph.D., *Associate Professor of Philosophy.*
Lawrence Willson, Ph.D., *Associate Professor of English.*
William C. Walker, Ph.D., *Assistant Professor of Physics.*
Howard Warshaw, *Assistant Professor of Art.*

The purpose of the tutorial program is to give superior students a broadly liberal education through an interdepartmental major which allows considerable freedom in the selection of courses. This major also emphasizes rigorous training in the arts of critical reading, discussion, and writing. An average grade of B or better in the freshman year is ordinarily a prerequisite to candidacy, although the Tutorial Committee will admit a student with a grade average lower than B who can be shown by other evidence than grades to be the type of student who would profit by the program. Properly qualified students who have spent their freshman year elsewhere may also be admitted. Freshmen students who wish to become acquainted with the Tutorial Program may elect either semester, or both semesters of Tutorial 1A–1B, without committing themselves to becoming a major or a minor.

An entering student may register with the chairman of the Tutorial Committee his intention of becoming a major, in order to be assigned to a permanent adviser early in his college career. He becomes a major only after he has taken the two required colloquia. (A colloquium is a formal discussion group conducted by two instructors from different departments of knowledge.) At least one colloquium will be offered in every regular semester.

The distinctive feature of the program is individual instruction in courses not offered in the regular curriculum but designed for the student with the assistance of his adviser and the Tutorial Committee. The colloquia are open to all students as electives. Upon approval of the Dean of the College of Letters and Science, they may be elected as alternates to certain courses listed as requirements in the Program of General Education.

Preparation for the Major. Students follow the General Education *Program I* (see pages 64 and 65), with the following provisos:

1. The student is strongly advised to elect History 4A–4B.
2. In the sophomore year the student must elect two colloquia, one each semester. It is unlikely that he will be permitted to continue in the tutorial program if his grade in either colloquium falls below B.

The Major. Each student is assigned to a faculty adviser for guidance in the preparation of his program. As far as possible, he retains the same adviser during his four years of undergraduate study. When he has completed his preparation for the major, the student begins his program of specifically tutorial instruction. With the assistance of his adviser, and after consultation with the Tutorial Committee, he elects two tutorial courses during each semester of his junior and senior years.

The tutorial program may be elected as a minor. The minor student takes two required colloquia, followed by 12, instead of 24, units of tutorial courses.

Lower Division Courses

Tutorial 1A–1B. Introduction to Tutorial. (1–1) I, II. The Staff
Prerequisite: approval of Tutorial Committee.

Readings and essay-writing designed to acquaint new or prospective Tutorial majors with the nature and methods of the Tutorial Program.

Upper Division Courses

Colloquium 101. Colonial Origins of American Thought. (3) I, II.
Mr. Jacobs, Mr. Willson

Colloquium 102. The Concept of Evolution: Scientific, Social, and Philosophical Implications. (3) I, II.
Mr. Girvetz, Mr. Hardin, Mr. Walters

Colloquium 103. Utopias. (3) I, II.
Mr. Andron, Mr. Girvetz, and Mr. Hardin

Colloquium 104. Athenian Civilization. (3) I, II. Mr. Del Chiaro, Mr. Frost

Colloquium 105. Romanticism. (3) I, II. ———, Mr. Robinson

Colloquium 106. Communication Theory and Philosophy. (3) I, II.
Mr. Hardin, Mr. Wilkinson

Tutorial 100 (3) I, II.
May be repeated for credit up to 24 units.

Tutors to be selected from the faculty according to the interests and requirements of the students.

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1961–1962

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